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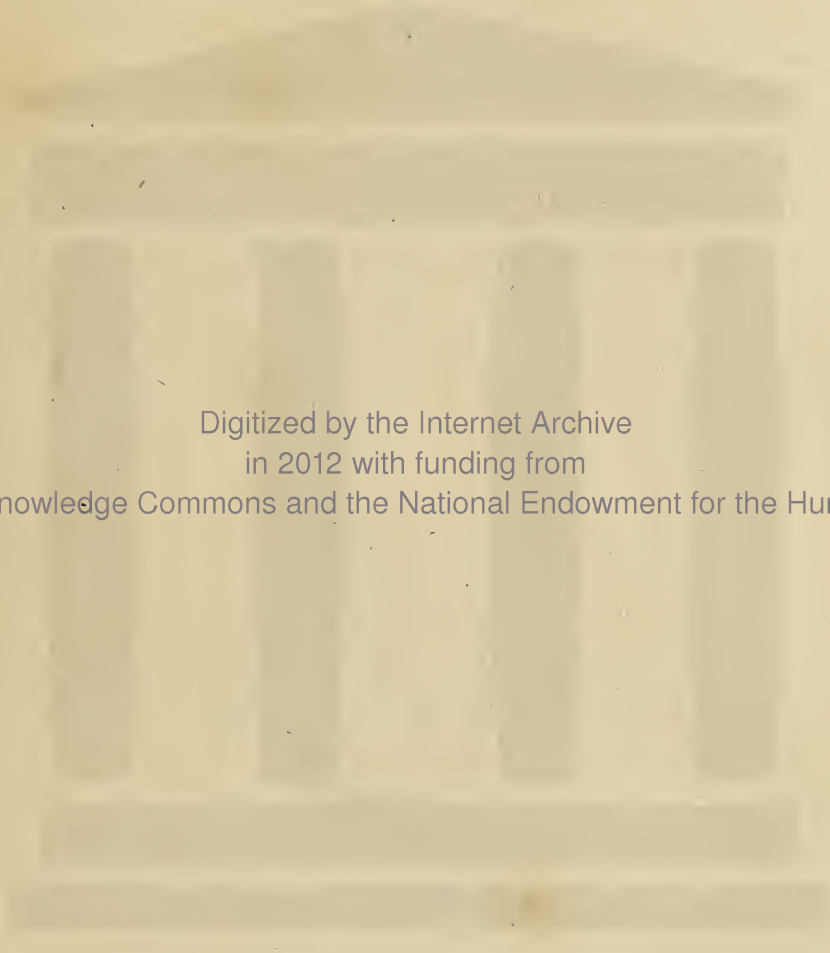

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MEDICAL COMMUNICATIONS

OF THE

MASSACHUSETTS MEDICAL SOCIETY.

VOL. I.

BOSTON:

PUBLISHED BY THE SOCIETY.

1808.

MEDICAL PAPERS,

COMMUNICATED TO THE

MASSACHUSETTS MEDICAL SOCIETY.

TO WHICH ARE SUBJOINED,

EXTRACTS from various AUTHORS, containing some of the IMPROVEMENTS, which have lately been made in PHYSIC and SURGERY.

Published by the SOCIETY.

NUMBER I.

PRINTED AT *BOSTON*, Massachusetts,
BY THOMAS AND ANDREWS.
At *FAUST's* STATUE, No. 45, *Newbury Street*.

MDCCXC.

PREFACE.

THE experience of more than a century has fully evinced the great utility of literary ſocieties, in promoting the improvement of ſcience; the eſtabliſhment of them has therefore been adopted with ſucceſs, wherever ſuch improvement has been conſidered as an important object. The progreſs of numbers when connected in ſociety, and earneſtly engaged in the ſame purſuit, muſt be far more rapid and more ſure, than among an equal number of detached individuals; as the ardor and emulation which the ſtate of ſociety excites, and the mutual communication and correction of ideas for which it gives opportunity among the former, are entirely wanting with the latter.

IT is therefore to be hoped that the *Maſſachuſetts Medical Society* may produce happy effects, in promoting among ourſelves, the improvement of medicine, a ſcience of the greateſt importance to the public, but which unhappily, in this country, has hitherto been too little cultivated.

HAVING this improvement in view, the Society early called upon its members and others, to communicate ſuch medical obſervations of every kind, as might occur in the courſe of their ſtudies or practice; and ſtill requeſts not only members, but gen-

tlemen of the faculty and of obſervation every where, to contribute their friendly aſſiſtance in advancing that art, which is the grand object of this inſtitution.

WITH a view to encourage the communication of all extraordinary and important caſes that might occur in the practice of the medical profeſſion, Committees of Correſpondence were eſtabliſhed in the ſeveral counties of the State, in 1785, whoſe duty it is "to meet, correſpond and communicate with "any individuals, or any aſſociations of phyſicians, "that have been or may be formed in their reſpect-"ive counties, and *make report* of their doings from "time to time, *to the Society*, as occaſion may re-"quire." Several aſſociations have already been formed, from which it is preſumed eſſential advantages will be derived.

THE *Cenſors*, in conformity to the duty required of them by the act of incorporation and the laws of the Society, have examined a conſiderable number of candidates for the practice of phyſic and ſurgery, many of whom were found duly qualified, and have received the approbation of the Cenſors, in letters teſtimonial thereof, and under the ſeal of the Society.

IN 1787, ſeveral of the fellows preſented a number of valuable books; ſince that time, partly by further donations, and partly by purchaſes, a libra-

ry

ry has been inſtituted, conſiſting of uſeful and important books in the various branches of the profeſſion; they are now ready to be loaned to the members of the Society, under certain regulations: This eſtabliſhment, it is not doubted, will greatly ſerve to diffuſe medical knowledge through the Commonwealth.

FACTS and practical obſervations, made with accuracy and fidelity, are the ground work upon which all theory and practice can ſafely and ſecurely be founded: Therefore, all accounts of the appearances of new or unuſual diſeaſes, or new and unuſual appearances and variations attending ſuch as are already known; of diſeaſes peculiar to particular ſituations; of epidemics, as they appear from year to year; of new methods of treatment, whether ſucceſsful or unſucceſsful; of new medicines, eſpecially of any ſimples, whether vegetable, animal or mineral, of our own growth; all improvements or diſcoveries in pharmacy, medical chymiſtry, or botany; morbid appearances, found in diſſecting dead bodies, eſpecially when accompanied, as they always ought to be, with as exact a deſcription of the ſymptoms and appearances of the previous diſeaſe as can be obtained: In ſhort, all new and juſt obſervations, connected with medicine or ſurgery, candidly, clearly and plainly related, will be gratefully received.

AS the ſociety is new, and our country but of modern date, it cannot be expected, that communications ſhould be ſo numerous, as if it were more advanced, and had a larger and more extenſive correſpondence.

FROM ſuch communications as have been received, the Society has ſelected ſeveral articles, which are now preſented to the public; moſt of them are ſuch as have an immediate connexion with practice, and have a direct tendency to improve it; and from all of them it is preſumed the practitioner may derive ſome uſeful information.

SEVERAL of the papers in this number propoſe new methods of cure, in particular caſes, or recommend ſome new medicine to the attention of phyſicians: The Society does not undertake to recommend any method of cure pointed out in any of them, or to warrant any of the facts they contain; they are laid before the practitioner, upon the reputation of the writer, and left to the fate they may merit.

THOSE gentlemen who have favored the Society with their communications, will be pleaſed to accept the thanks due to their exertions for the promotion of the healing art; and may be aſſured that their future correſpondence will be duly noticed.

AS it is propoſed to continue the publication at no very diſtant periods, ſeveral papers now on hand may ſoon be expected in a future number.

THE Society's principal aim, in this publication, is to make it as uſeful as poſſible.

MANY practitioners, may, from their local ſituation or other cauſes, be precluded the advantages of an early acceſs to European publications, in the ſeveral branches of their profeſſion: It has therefore been thought expedient to ſubjoin, as an Appendix, a number of extracts from ſuch books as have made their appearance here; which, as they may anſwer the purpoſe of communicating a variety of uſeful improvements and intereſting obſervations in the healing art, it is hoped will not be wholly unacceptable to thoſe who may have already peruſed them.

ACT OF INCORPORATION.

COMMONWEALTH *of* MASSACHUSETTS.

In the Year of our LORD, 1781.

An ACT to incorporate certain PHYSICIANS, by the Name of *The* MASSACHUSETTS MEDICAL SOCIETY.

AS health is eſſentially neceſſary to the happineſs of ſociety; and as its preſervation or recovery is cloſely connected with the knowledge of the animal economy, and of the properties and effects of medicines; and as the benefit of medical inſtitutions, formed on liberal principles, and encouraged by the patronage of the law, is univerſally acknowledged:

Be it therefore enacted by the Senate and Houſe of Repreſentatives in General Court aſſembled, and by the authority of the ſame, That *Nathaniel Walker Appleton, William Baylies, Benjamin Curtis, Samuel Danforth, Aaron Dexter, Shirley Erving, John Frink, Joſeph Gardner, Samuel Holten, Edward Auguſtus Holyoke, Ebenezer Hunt, Charles Jarvis, Thomas Kaſt, Giles Crouch Kellogg, John Lynn, James Lloyd, Joſeph Orne, James Pecker, Oliver Preſcott, Charles Pynchon, Iſaac Rand, Iſaac Rand, jun. Micaijah Sawyer, John Sprague, Charles Stockbridge, John Barnard Swett, Cotton Tufts, John Warren, Thomas Welſh, Joſeph Whipple, William Whiting,* be, and they hereby are formed into, conſtituted and made a body politic and corporate, by the name of *The Maſſachuſetts Medical Society*; and that they and their ſucceſſors, and ſuch other perſons as ſhall be elected in the manner hereafter mentioned, ſhall be and continue a body politic and corporate by the ſame name forever.

And be it enacted by the authority aforeſaid, That the fellows of ſaid ſociety may from time to time elect a preſident, vice preſident and ſecretary, with other officers as they ſhall judge neceſſary and convenient; and they the fellows of ſaid ſociety, ſhall have full power and authority, from time to time, to determine and eſtabliſh the names, number and duty of their ſeveral officers, and the tenure or eſtate they ſhall reſpectively have in their offices; and alſo to authorize and

empower

empower their preſident or ſome other officer to adminiſter ſuch oaths to ſuch officers, as they, the fellows of ſaid ſociety, ſhall appoint and determine for the well ordering and good government of ſaid ſociety, provided the ſame be not repugnant to the laws of this commonwealth.

And be it enacted by the authority aforeſaid, That the fellows of ſaid ſociety ſhall have one common ſeal, and power to break, change and renew the ſame at their pleaſure.

And be it enacted by the authority aforeſaid, That they, the fellows of ſaid ſociety, may ſue and be ſued in all actions, real, perſonal or mixed, and proſecute and defend the ſame unto final judgment and execution, by the name of *The Maſſachuſetts Medical Society*.

And be it enacted by the authority aforeſaid, That the fellows of ſaid ſociety may from time to time elect ſuch perſons to be fellows thereof, as they ſhall judge proper; and that they, the fellows of ſaid ſociety, ſhall have power to ſuſpend, expel or diſfranchiſe any fellows of ſaid ſociety.

And be it enacted by the authority aforeſaid, That the fellows of ſaid ſociety ſhall have full power and authority to make and enact ſuch rules and bye laws for the better government of ſaid ſociety, as are not repugnant to the laws of this commonwealth; and to annex reaſonable fines and penalties to the breach of them, not exceeding the ſum of *twenty pounds*, to be ſued for and recovered by ſaid ſociety, and to their own uſe, in any court of record within this commonwealth proper to try the ſame; and alſo to eſtabliſh the time and manner of convening the fellows of ſaid ſociety; and alſo to determine the number of fellows that ſhall be preſent to conſtitute a meeting of ſaid ſociety; and alſo, that the number of ſaid ſociety, who are inhabitants of this commonwealth, ſhall not at any one time be more than ſeventy, nor leſs than ten; and that their meetings ſhall be held in the town of *Boſton*, or ſuch other place within this commonwealth, as a majority of the members preſent in a legal meeting, ſhall judge moſt fit and convenient.

And whereas it is clearly of importance, that a juſt diſcrimination ſhould be made between ſuch as are duly educated and properly qualified for the

duties

duties of their profeſſion, and thoſe who may ignorantly and wickedly adminiſter Medicine, whereby the health and lives of many valuable individuals may be endangered, or perhaps loſt to the community :

Be it therefore enacted by the authority aforeſaid, That the preſident and fellows of ſaid ſociety, or other ſuch of their officers or fellows as they ſhall appoint, ſhall have full power and authority to examine all candidates for the practice of phyſic and ſurgery, (who ſhall offer themſelves for examination, reſpecting their ſkill in their profeſſion) and if upon ſuch examination, the ſaid candidates ſhall be found ſkilled in their profeſſion, and fitted for the practice of it, they ſhall receive the approbation of the ſociety in letters teſtimonial of ſuch examination, under the ſeal of the ſaid ſociety, ſigned by the preſident, or ſuch other perſon or perſons as ſhall be appointed for that purpoſe.

And be it further enacted by the authority aforeſaid, That if the ſaid preſident, and ſuch other perſon or perſons, ſo elected and appointed for the purpoſe of examining candidates as aforeſaid, ſhall obſtinately refuſe to examine any candidate ſo offering himſelf for examination as aforeſaid, each and every ſuch perſon ſo elected and appointed as aforeſaid, ſhall be ſubject to a fine of *one hundred pounds*, to be recovered by the ſaid candidate, and to his own uſe, in any court within this commonwealth proper to try the ſame.

And be it further enacted by the authority aforeſaid, That the fellows of ſaid ſociety may, and ſhall forever be deemed capable in law, of having, holding and taking in fee ſimple or any leſs eſtate by gift, grant or deviſe or otherwiſe, any land, tenement or other eſtate, real or perſonal; provided that the annual income of the whole real eſtate that may be given, granted or deviſed to, or purchaſed by the ſaid ſociety, ſhall not exceed the ſum of *two hundred pounds*, and the annual income or intereſt of ſaid perſonal eſtate, ſhall not exceed the ſum of *ſix hundred pounds* ; all the ſums mentioned in this act to be valued in ſilver at *ſix ſhillings and eight pence* per ounce : And the annual income or intereſt of the ſaid real and perſonal eſtate, together with the fines and penalties paid to ſaid ſociety, or recovered by them, ſhall be appropriated to ſuch purpoſes as are conſiſtent with the end and deſign of the inſtitution of ſaid ſociety, and as the fellows thereof ſhall determine.

And be it further enacted, That the firſt meeting of the ſaid Medical Society ſhall be held in ſome convenient place in the town of *Boſton* ; and that *Edward Auguſtus Holyoke*, Eſq; be, and he hereby is authoriſed and directed to fix the time for holding the ſaid meeting, and to notify the ſame to the fellows of ſaid Medical Society.

In the Houſe of REPRESENTATIVES, October 30, 1781.

This bill having had three ſeveral readings, paſſed to be enacted.

NATHANIEL GORHAM, Speaker.

In SENATE, November 1, 1781.

This bill having had two ſeveral readings, paſſed to be enacted.

SAMUEL ADAMS, Preſident.

Approved, JOHN HANCOCK.

A true copy.

Atteſt, JOHN AVERY, jun. Secretary.

A LIST

A LIST *of the* FELLOWS *of the* MASSACHUSETTS MEDICAL SOCIETY, *and their Places of Reſidence.*

* SAMUEL Adams, *Boſton.*
Nathaniel Ames, *Dedham.*
Nathaniel W. Appleton, *Boſton.*
Iſrael Atherton, *Lancaſter.*
Joſhua Barker, *Hingham.*
Joſiah Bartlett, *Charleſtown.*
William Baylies, *Dighton.*
Chauncy Brewer, *Springfield.*
James Brickett, *Haverhill.*
John Brooks, *Medford.*
David Cobb, *Taunton.*
Nathaniel Coffin, *Portland.*
* John Cuming, *Concord.*
* Benjamin Curtis, *Boſton.*
Samuel Danforth, *Boſton.*
Aaron Dexter, *Boſton.*
Shirley Erving, *Portland.*
William Euſtis, *Boſton.*
Joſhua Fiſher, *Beverly.*
John Flagg, *Lynn.*
John Frink, *Rutland.*
* Joſeph Gardner, *Boſton.*
Lemuel Hayward, *Boſton.*
* Abner Herſey, *Hingham.*
Samuel Holten, *Danvers.*
Gad Hitchcock, jun. *Pembroke.*
Edward A. Holyoke, *Salem.*
Ebenezer Hunt, *Northampton.*
Joſeph Hunt, *Concord.*
Charles Jarvis, *Boſton.*
Thomas Kaſt, *Boſton.*
* William Kneeland, *Cambridge.*
James Lloyd, *Boſton.*
Thaddeus Maccarty, *Worceſter.*
Samuel Mather, *Weſtfield.*
* Joſeph Orne, *Salem.*
Joſeph Oſgood, *Andover.*
Oliver Partridge, *Stockbridge.*
James Pecker, *Boſton.*
Oliver Preſcott, *Groton.*
* Charles Pynchon, *Springfield.*
Iſaac Rand, *Cambridge.*
Iſaac Rand, jun. *Boſton.*
Thomas Rice, *Pownalborough.*
Nathaniel Saltonſtall, *Haverhill.*
Samuel Savage, *Barnſtable.*
Eraſtus Sargent, *Stockbridge.*
Micaijah Sawyer, *Newbury Port.*
* John Sprague, *Newbury Port.*
John Sprague, *Dedham.*
Marſhall Spring, *Watertown.*
Charles Stockbridge, *Scituate.*
John B. Swett, *Newbury Port.*
John Swett, *York.*
David Townſend, *Boſton.*
* Simon Tufts, *Medford.*
Cotton Tufts, *Weymouth.*
John Vanhorne, *Weſt Springfield.*
John Warren, *Boſton.*
Benjamin Waterhouſe, *Cambridge.*
Henry Wells, *Montague.*
Thomas Welſh, *Boſton.*
Joſeph Whipple, *Boſton.*
Thomas Williams, *Roxbury.*
William Whiting, *G. Barrington.*
Samuel Willard, *Uxbridge.*
* Edward Wyer, *Cambridge.*

N. B. Thoſe with this mark (*) are deceaſed.

HONORARY

HONORARY MEMBERS *of the* MASSACHUSETTS MEDICAL SOCIETY.

JOSHUA Brackett, Esq. Physician,	*Portsmouth.*
Ammi Ruhamah Cutter, Esq. Physician,	*Portsmouth.*
Hall Jackson, Esq. Physician,	*Portsmouth.*
M. John Feron, A. A. S.	*Paris.*
Rev. Manasseh Cutler. A. A. S.	*Ipswich.*
* John Morgan, M. D.	*Philadelphia.*
Benjamin Rush, M. D. Professor of Chymistry at the University of Pennsylvania,	*Philadelphia.*
William Shippen, Professor of Anatomy, Surgery and Midwifery at the University of Pennsylvania,	*Philadelphia.*
Adam Kuhn, Professor of Materia Medica and Practice of Physic at the University of Pennsylvania,	*Philadelphia.*
John Jones, M. D.	*New York.*
Dr. Charles M'Knight,	*New York.*
* Dr. Ebenezer Crosby,	*New York.*

N. B. Those with this mark (*) are deceased.

OFFICERS *of the* MASSACHUSETTS MEDICAL SOCIETY, *elected in June*, 1789.

HON. Cotton Tufts, M. D. *President.*

Isaac Rand, Esq. *Vice President.*

Isaac Rand, Esq. Edward A. Holyoke, M. D. Dr. Samuel Danforth, Hon. John Brooks, Esq. John Warren, M. D. Dr. Thomas Welsh, and Dr. Nathaniel W. Appleton, *Counsellors.*

John Warren, M. D. *Corresponding Secretary.*

Dr. Nathaniel Walker Appleton, *Recording Secretary.*

Dr. Thomas Welsh, *Treasurer.*

Aaron Dexter, M. D. *Vice Treasurer, Librarian,* and *Cabinet Keeper.*

Hon. Oliver Prescott, Esq. Dr. Samuel Danforth, Dr. Isaac Rand, jun. Charles Jarvis, Esq. and Dr. Lemuel Hayward, *Censors.*

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SALEM, JUNE, 1787.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

VERY ſoon after its inſtitution, *the Maſſachuſetts Medical Society* called upon its members, to communicate their obſervations on the diſeaſes, eſpecially the epidemics, which fell under their notice.

IN compliance with this call, I have continued my obſervations,* and now forward to you ſuch, as another year has furniſhed me with; together with a pretty full account of the weather, and the variations of the ſeaſons, the thermometer and barometer, &c. for each month.

THIS account takes up perhaps a larger proportion of this paper than many may think uſeful: Yet as it is not to be expected that every phyſician who has it in his power to give you an account of diſeaſes, ſhould be at the trouble of making meteorological obſervations; and as thoſe made in one ſpot, may probably anſwer for a conſiderable tract of country round, I thought it beſt to be ſo particular: For if diſeaſes, eſpecially epidemics, depend in a great meaſure upon the ſtate of the atmoſphere, as it is commonly ſuppoſed they do; and if others of the faculty in the vicinity ſhould, agreeably to the deſire of the ſociety, communicate obſervations made at the ſame time with theſe, I think a particular account of the weather muſt be uſeful, as being applicable to all ſuch communications.

AND it were much to be wiſhed that practitioners would more generally than they do, commit to paper their thoughts and remarks upon diſeaſes as they ariſe, and communicate them to the Society;

* Doctor Holyoke has communicated ſimilar obſervations for the years 1782, 1783, 1784, 1785, 1787, and 1788.

ciety; which, though doubtleſs it would be attended with ſome labor, yet this labor would be amply rewarded by the benefit which would accrue to themſelves, their patients, and the art they profeſs. The obſervations of many, made at the ſame time, and in different parts of the country, and continued for a courſe of years, muſt, when collected and compared together, throw a great deal of light upon many points, which are now involved in much obſcurity, and would doubtleſs be the readieſt and moſt effectual method of furniſhing materials for a hiſtory of thoſe diſeaſes which are either epidemical or endemical in our country. Indeed the joint efforts of many engaged in the ſame deſign, may accompliſh, in a few years, what would be impracticable to a few individuals, though employed for ages.

I HAVE only now to add, that in enumerating the diſeaſes which occurred in each month, I have recited them in the order of their frequency; and that all ſuch are left out of this account, as happened leſs than three times in the month, unleſs here and there a ſingle inſtance of a diſeaſe is noted, on account of its ſingularity. So that this is not to be looked upon as an enumeration of all the diſeaſes which appeared among us in the courſe of the year, (perhaps not above the half or two thirds of them) but only an account of thoſe which did moſt commonly occur.

M, DCC, LXXXVI.

JANUARY.

ON the 2d day, a ſmall earthquake in this vicinity; and on the 3d, a ſtorm at N. with much ſnow, and another on the 30th, at S. with much rain; ſnow alſo on the 5th and 15th, and a little on three or four days beſide. Prevailing winds between the N. W. and S. W. not one third of the month in a more eaſterly direction; eight or nine days of clear, dry and dephlogiſticated air; three foggy days; not very cold in general, but the 17th, 18th, and 19th, intenſely cold; the ☿ in my thermometer (Fahrenheit's) ſunk to —11°, and in another thermometer in town to —20°, and was never, at any time during theſe three days, higher (abroad in the ſhade) than 10°. The greateſt change in the thermometer, in any one day, was on the 31ſt, from 44° in the morning, to 16° at 10h. P. M. =28° abroad.

	Abroad.	In houſe.	
Thermometer higheſt on 29th,	46°.	44°.	at noon.
loweſt on 18th,	5°. 5	12°.	

MEAN heat of the month abroad, 24°. 8.

THE ☿ in the barometer but moderately variable until the 18th, after which more unſteady: The greateſt change in 24 hours from 30th to 31ſt, 0 inches, 65 decimals, lower.

BAROMETER higheſt on 20th, 30in. 30dec.—loweſt on 23d, 28in. 95dec.

THE

THE moſt common diſorders this month, which was a healthy one, were bad coughs, fevers, chiefly ephemeras, and thoſe of a mild moderate kind; abſceſſes, ſcrophulæ fugaces, odontalgiæ, dyſpepſiæ, rheumatiſms, dolores ſecundariæ; beſides a few inſtances of cynanchæ malignæ, colic, ſuppreſſed menſes, hyſteria, diarrhæa, and cutaneous eruptions.

FEBRUARY.

SNOW ſtorms on the 5th, 6th, and 14th, at N. E. and on the 20th at S. E. in which very large quantities of ſnow fell, and another on the 24th at N. E. Two appearances of aurora borealis. Winds about two thirds of the month between N. W. and S. W. none remarkably high. About ſeven or eight days clear, fair, dry, dephlogiſticated air; a good proportion of agreeable weather; no rain, except a little on the 5th. No very cold weather through the month. The greateſt variation of the thermometer was on the 15th, viz. 15° warmer abroad in nine hours.

		Abroad.	In houſe.	
Thermom. higheſt	on 10th,	47°	45°	at noon.
loweſt	on 1ſt,	22°	12th 27°	at noon.

MEAN heat of the month, (at three obſervations) 28° 6, abroad.

NO remarkable variations in the barometer; the greateſt on the 20th, from 29in. 95dec. to 29in. 47dec.

BAROMETER

BAROMETER higheſt on 2d, 30in. 10dec.—loweſt on 20th, 29in. 47dec.

THIS month was very healthy; we had ſome mild febrile diſorders, cynanchæ malignæ, colics, and coughs; after pains in puerperal women; ſeveral hectical caſes; ſcrophulæ fugaces; pleuriſies; a few aſthmatic, and worm caſes; and, which was remarkable, two inſtances of fatal ileus.

MARCH.

A SNOW ſtorm on 2d, at N. E. another which began on the 4th, at S. E. and ended on 5th, at N. E. very violent; beſides which, very little ſnow. Rain fell on the 2d, 16th, 27th, 29th, and 31ſt. Foggy on four days; ſix auroræ boreales, and an uncommonly beautiful one on the 22d. Winds from the weſtern board rather more than half the month; five or ſix days they were peculiarly penetrating, ſharp, and raw; ſuch as prevail in no other ſeaſon of the year; frequently very high, as uſual in this month. Weather variable; ſometimes cold, raw, and windy; at other times, exceedingly pleaſant: No very cold weather during the month; but the 25th and 26th remarkably warm, and the air ſmoky and hazy. The greateſt change in the thermometer on the 26th, from 3h. to 10h. P. M. 28° colder.

Thermom,

		Abroad.	In houſe.	
Thermom.	higheſt on 26th,	78°	64°	at noon.
	loweſt on 11th,	31°	33°	

MEAN heat of the month (at three obſervations) 39° 7, abroad.

THE changes in the barometer were not remarkable; the greateſt on 16th, from 29in. 90dec. to 29in. 45dec. from morning to night.

BAROMETER higheſt on 14th, 30in. 15dec.—loweſt on 3d, 29in. 05dec.

DYSPEPSIÆ, coughs, odontalgiæ, and worms very frequent; next in frequency were febrile diſorders, chiefly pleuritic, pleurodynæ, colics, and rheumatic complaints; then ſcrophulæ, mild cynanchæ malignæ, cephalalgiæ, diarrhææ, convulſions and gaſtrodynæ; ſeveral hæmoptoſes, hyſteriæ and cutaneous eruptions. About the middle of this month, the chin cough made its appearance; one inſtance of nyctalopia, in a lad of 16. The month rather ſickly.

APRIL.

ON the 1ſt and 2d a moſt violent ſtorm at N. E. in which twelve or fourteen inches of ſnow fell; another of rain on the 18th and 19th, from the ſame quarter; beſide which, rain on ſix other days. Aurora borealis on five evenings; fog on two days; very few tolerably pleaſant days: From the 17th

to

to 26th a tedious ſeries of cold, damp, raw, rainy weather; prevailing winds from the eaſtward; a ſhower, with thunder and lightning, on the 24th: Temperature of the air in general equable and very diſagreeable. The temperature of April is commonly more equable than any other month of the year, as I have frequently obſerved. The greateſt variation of the thermometer on the 10th, 28° in ſeven hours abroad, from cold to warm.

		Abroad.	In houſe.	
Thermom.	higheſt on 28th,	63°.	56°.	at noon.
	loweſt 2d,	30°.	33°.	

MEAN heat of the month (at three obſervations) 47°. 2, abroad.

THE ☿ in the barometer remarkably ſtationary; the greateſt variation in one day, from the 2d to 3d, 0in. 78dec.

BAROMETER higheſt on 3d, 30in. 03dec.—loweſt on 25th, 29in. 10dec.

PERTUSSIS was now epidemical amongſt children; nor did adults eſcape, for ſeveral ſuffered ſeverely by it; ſome fevers of no great conſequence among children; bad coughs, brought on by the long continuance of damp, raw weather; a number of which terminated in phthiſis, and ſeveral others eſcaped with difficulty; many dyſpepſiæ, cephalalgiæ, and oppreſſions at the breaſt; a few colics, abſceſſes, and rheumatic caſes.

MAY.

MAY.

ON the 6th and 7th a ſtorm at N. E. with much rain, and ſhowers on four days beſide; two days foggy; two auroræ boreales; very few pleaſant days, but much raw, cold, cloudy, diſagreeable eaſterly weather; almoſt conſtantly eaſterly winds; ſpring rather backward; greateſt variation of heat on 26th, 17° colder from noon to night.

		Abroad.	In houſe.	
Thermom. higheſt on	27th,	71°	31ſt 63°	at noon.
loweſt	6th,	48°	52°	

MEAN heat of the month abroad (by three obſervations) 57° 2.

SMALL variations in the barometer; the greateſt in 24 hours, from 6th to 7th, 0in. 40dec.

BAROMETER higheſt on 30th, 29in. 99dec.—loweſt 7th, 29in. 30dec.

THE chin cough, which firſt appeared in March, was now highly epidemical; ſeveral of the younger patients were ſeized with convulſions, and a few carried off by them; the method which I found moſt ſucceſsful, after trying ſeveral, was to exhibit firſt an emetic of turp. mineral. (when the patient was able to bear the operation) joined with a few grs. of pulv. ipecac. and ſoon after ſmall doſes of kermes min. with a ſmall addition of flor. benzoin, every ſix or eight hours; and in the intervals one, two or three tea ſpoonfuls of a moderately ſtrong

ſolution

ſolution of gum. ammoniac. Many were relieved by this method, who appeared to be in the greateſt danger; though it muſt be confeſſed that ſome received but little, and others no benefit from it: Fevers of various forms, chiefly pneumonic and rheumatic, were common; bad coughs were frequent, as alſo dyſpepſiæ; then diarrhæas, cephalalgiæ, and worms; catarrhal diſorders and defluxions on the breaſt; then abſceſſes, odontalgiæ, ſcrophulæ, and mild dyſenteric diſorders; a few menorrhagiæ, abortions, and hyſteriæ; and ſeveral epilepſies.

JUNE.

NO conſiderable rains, but ſhowers on ſix ſeveral days; none great; a little thunder on four days; Fogs on five days; three appearances of aurora borealis; moderate winds, chiefly between N. W. and S. W. about a third of the month was fine agreeable weather, and pretty hot; about three or four days the air much phlogiſticated, damp and ſultry; the reſt of the month rather cool, damp and diſagreeable: The greateſt variation of the thermometer, the ☿ ſunk from 3h. to 10h. P. M. 30°.

		Abroad.	In houſe.	
Thermom.	higheſt on 4th,	93°	85°	at noon.
	loweſt 15th,	71°	10th 65°	

MEAN heat abroad, (by a mean of three obſervations) 71° 8.

THE

THE ☿ in barometer very ſtationary; greateſt change in 24h. oin. 28dec.

BAROMETER higheſt on 16th, 29in. 90dec.—loweſt on 12th, 29in. 33dec.

CHIN cough ſtill continues to be the prevailing diſorder; dyſpepſia was more frequent than I ever recollect it to have been. After the exhibition of ſuch evacuants as were thought proper, I found the columbo root given in ſubſtance, to be extremely beneficial in numerous inſtances. Various ſpecies of pyrexiæ, among which were a few ſynochi, ſome ſlow fevers, ſeveral pleuriſies and rheumatic fevers: Diarrhæas, vomitings and purgings, and colicy complaints, common: Hectical caſes and bad coughs, numerous: Then abſceſſes, menorrhagiæ, opthalmiæ, and hæmoptoſes; next ſcrophulæ vulgares and amenorrhœæ. One inſtance of hydrophobia in a boy of three years old, who had been bit in the right cheek about five months before, by a dog, who in a few days after died with all the marks of rabies; this child died in great diſtreſs about twenty ſix or twenty eight hours after its averſion to water was diſcovered.

JULY.

RAIN on 18th and 27th. Several ſhowers beſide, attended with a little thunder and lightning on four other days; fogs on two days; aurora borealis on ſeven evenings; moſt prevalent winds from the weſt,

weſt, though frequent eaſterly turns; two or three ſultry dog days, and three or four dry, dephlogiſticated ones. About a third of the month, the air was damp, and the winds blew gently from the eaſtward; a great deal of cool weather for this ſeaſon; but about five days that might be called very hot; the ſeaſon rather dry the former part of the month, but towards the latter part, vegetation very good; but few graſhoppers this month. Two remarkable changes from hot to cold, one on the 12th, thermometer at four o'clock, P. M. at 82°, and at 7h. the ſame evening, at 59°, and on the 27th, at noon, 89°, and at 10h. P. M. down to 64°.

		Abroad.	In houſe.	
Thermometer higheſt on	16th,	91°. 5	85°.	at noon.
loweſt	18th,	60°.	64°.	

MEAN heat of the month (by a mean of three obſervations) 71°. 3.

BUT ſmall variations in the gravity of the atmoſphere; the greateſt change in barometer, in 24h. 0in. 19dec.

BAROMETER higheſt on 31ſt, 29in. 93dec.—loweſt on 16th, 29in. 45dec.

PERTUSSIS which ſtill continued epidemical, was in many inſtances attended with fever, which though ſometimes threatening, ſeldom proved mortal; ſeveral children who had had the diſeaſe a long time,

and

and appeared to be almoſt recovered, had the cough return upon them again with great violence; but theſe relapſes ſeldom proved very lengthy, commonly continuing bad, but about a week or ten days. Diſorders of the alimentary tube, viz. diarrhæa, dyſpepſia, and gaſtrodynæ were very rife; ſome dyſenteriæ, choleræ dyſentericæ, nauſeæ, and vomitings; pleurodynæ, bad coughs and hectical complaints. Abſceſſes, ulcuſculæ oris in children, vertigos, ſcrophulæ and odontalgiæ. Rather ſickly.

AUGUST.

RAIN on five days, and a few ſlight ſhowers beſide; two days foggy; four appearances of aurora borealis; many eaſterly winds, though more frequently from the weſtern quarter, and none high, nor any ſtorm through the month; much damp weather, and ſcarcely one third of the month pleaſant, although we had but four or five dog days; no very hot weather, and on the whole a very cool Auguſt; a little thunder and lightning on 23d. The greateſt change in the thermometer on the 6th, 17° in 10h. from warm to cool, in the open air.

		Abroad.	In houſe.	
Thermom. higheſt	on 6th,	88°	84°	at noon.
loweſt	31ſt,	62°	60°	

MEAN heat of the month (by a mean of three obſervations) 69°.

THE

THE ☿ in the barometer pretty ſteady; the greateſt change in 24h. 0in. 31dec.

BAROMETER higheſt on 28th, 30in. 01dec.—loweſt on 12th, 29in. 33dec.

PERTUSSIS much the ſame as in the laſt month; cholera dyſenterica, (as in a former communication I took the liberty to denominate this diſeaſe) now epidemical amongſt teething children, and like that of the laſt ſeaſon, was not attended with ſuch a degree of vomiting as formerly, and gave way very kindly to the vitr. antim. cerat. in ſmall doſes, as laſt year: Pyrexiæ numerous, ſuch as a ſhort mild fever, ſlow fever, ſynochus, pleuritis, febricula puſtulata and opthalmia: Dyſpepſia and diarrhæa common; a number of abſceſſes, tormina, worm caſes, arthrodyniæ, epilepſies, aſthmas, maniæ, &c.

ONE inſtance of the true ſcurvy in a lad returned from a fiſhing voyage, in which he had been employed about twelve weeks: This is a ſingular occurrence with us, as I do not remember to have ſeen for near forty years, any one perſon concerned in the cod fiſhery come home with this diſeaſe till now. This patient had a foul ſtinking breath, ſwelled bleeding gums, looſe teeth, bloated pale ſallow countenance, purple ſpots upon the lower limbs, ſwelled legs, great weakneſs and indiſpoſition to action, &c. &c. He ſoon recovered by the help of a vegetable and fruit diet, a few mild purges, &c.

SEPTEMBER.

SEPTEMBER.

NO ſtorms this month; on 12th a good deal of rain, and on 18th and 19th a little; a ſmall thunder ſhower on 5th; fog on 19th; two auroræ boreales; winds moſt commonly from the weſtern board, though frequently interrupted by eaſterly breezes, but no briſk gales; much dry agreeable weather; but two or three dog days, and a very few hot, and not a third of the time damp; the greateſt change from cool to warm on the 30th, 18° in 7 hours.

		Abroad.	In houſe.	
Ther. higheſt on 2d &	30th,	80°	30th, 74°	at noon.
loweſt	24th,	59°	59°	

MEAN heat of the month, (at three obſervations) 61° 5.

THE variations of the barometer, for ſix months paſt, but ſmall; the greateſt in any 24 hours this month, 0in. 48dec.

BAROMETER higheſt on 8th, 30in. 06dec.—loweſt on 11th, 29in. 18dec.

FEVERS, for the moſt part, of a mild low kind, very numerous; none of which however, ended fatally; a few pleuriſies; choleræ dyſentericæ rife; diarrhæas, abſceſſes, and dyſenteriæ frequent; pertuſſis ſtill continues, and very frequent relapſes into it; when this diſeaſe proved mortal, the child was commonly carried off with convulſions: Of all the

patients

patients who had this diſtreſſing cough this ſeaſon, few or none became tabid: Colics, gaſtrodynæ, and worms, common; a number of ſcrophulæ, cutaneous eruptions, dyſpepſiæ, abortions, hæmoptyſes, convulſions, epilepſies, little ulcers of the mouth, and hectical caſes: Two ſailors imported the Guinea worm from Africa; one caſe of catalepſy. Rather ſickly.

OCTOBER.

A SHORT and not violent ſtorm of rain at S. E. on the 6th, and a very little rain on two or three other days; two or three inches of ſnow fell on 30th: Fog on one day; four very ſmoky days; four auroræ boreales, and two dog days: Winds chiefly from S. W. W. and N. W. ſeldom high; ſome weather unſeaſonably hot about the middle of the month, which in general was pleaſant.

		Abroad.	In houſe.	
Thermom. higheſt	on 1ſt,	83°.	76°.	at noon.
loweſt	31ſt,	40°.	43°.	

MEAN heat of the month, (by a mean of three obſervations) 55°. 2.

CHANGES in the barometer but moderate, greateſt in 24 hours, 0in. 50dec.

BAROMETER higheſt on 25th, 30in. 13dec.—loweſt on 6th, 29in. 04dec.

PYREXIÆ

PYREXIÆ were numerous, ſome of which were very mild, and ran a courſe of one or two weeks only; ſome were ſynochi, many others began with a pleuritic type, but degenerated into a long, tedious ſlow fever, of three, four or five weeks continuance; the event, however, was very favourable: Dyſenteries were common and happy in their termination; choleræ dyſentericæ ſtill frequent, and much more fatal this month than the laſt; worms in children, vomitings, dyſpepſiæ, diarrhææ, abſceſſes, and gaſtrodynæ were next in frequency; then odontalgiæ, head achs, cutaneous eruptions, ulcuſcula oris, and ſore throats; a very few cynanchæ malignæ, and tonſillares; one patient with nyctalopia; pertuſſis diſappeared, after a continuance of ſeven or eight months.

NOVEMBER.

NO ſtorms or high winds, which is remarkable, as there are generally more in this month than in any other; rain on five days, but the ſprings were remarkably low, and there was great complaint for want of water in wells and ponds. Some ſnow on four days; four auroræ boreales: Winds from S W. W. and N W. above two thirds of the month: Weather very variable, though more than a third was fair and dry; no hot weather, but ſome uncommonly cold, and the winter ſet in early: The greateſt variation in the thermometer was on the 28th, from 34° to 6° in 7 hours, abroad.

		Abroad.	In houſe.	
Thermom.	higheſt on 7th,	59°	55°	at noon.
	loweſt 28th,	10°	29th 19°	

MEAN heat of the month, (by three obſervations) 33° 4.

VARIATIONS of the barometer but ſmall; the greateſt in 24 hours, 0in. 52dec.

BAROMETER higheſt on 26th, 30in. 09dec.—loweſt on 10th, 29in. 19dec.

FEVERS of various types frequent, as long low ſlow fevers, a mild moderate fever of a much ſhorter period, ſynochus, pleuritis; abſceſſes numerous; ſcrophulæ, diarrhææ and odontalgiæ; next hyſteriæ, worms, cynanchæ malignæ of favourable event, gripes, and agues in face; ſeveral ſore throats and cutaneous eruptions; a few choleræ dyſentericæ, which is remarkable ſo late in the year. A man of ſeventy years, carried off ſuddenly by angina pectoris.

DECEMBER.

TWO very violent ſtorms at E. and N E. in which an immenſe quantity of ſnow fell, viz. on the 4th and 5th, and on 9th and 10th, and the air being cold, prodigious damage was done by them, both at ſea and on ſhore; during the firſt there was a remarkable high tide; another ſtorm of rain and ſnow on the 23d and 24th; a little ſnow alſo fell on the

8th

8th and 13th, and a little rain on four other days; one foggy day; two auroræ boreales; winds from the weſtward much the greateſt part of the month, and not very high; about ten days of clear dry weather, though but about five or ſix pleaſant days; much ſevere cold, and two or three ſtormy turns; prodigious quantities of ſnow on the ground, which made travelling difficult, the roads being almoſt impaſſable; the greateſt variation of thermometer from 12th to 13th, 31° warmer in 24 hours.

			Abroad.	In houſe.	
Thermom.	higheſt on	31ſt,	45°	43°	at noon.
	loweſt	12th,	17°	20°	

MEAN heat of the month, (by a mean of three obvations) 26° 7.

BAROMETER more variable than for ſeveral months paſt; greateſt change in one day, 0° 61.

BAROMETER higheſt on 10th, 30in. 34dec.—loweſt on 24th, 29in. 36dec.

THIS month remarkably healthy; few, or no febrile diſorders; the moſt common complaints were abſceſſes, coughs and cutaneous eruptions; then vomitings and purgings, and ſcrophulæ amongſt children; a few opthalmiæ, pleurodynæ, cephalalgiæ, and ulcuſculæ oris: Alſo, ſeveral lienteries brought from the Weſt Indies.

THE winter was not remarkably cold, but the ground was covered very deep with ſnow; the ſpring cold, damp, and backward; the ſummer remarkably cool, and rather dry; the autumn in the former part warm, the latter part cold.

THE mean heat of the year, in the open air, 48°. 87.

TO an account of the diſeaſes to which we are incident in this place at the preſent day, it may not be improper to ſubjoin a few words reſpecting ſuch as ſeldom or never do happen, and of ſuch as were frequent formerly, but ſeldom or never make their appearance here at preſent.

THE firſt I ſhall mention is the *rickets*. This diſeaſe was formerly (about thirty five or forty years ago) pretty common here, and more eſpecially among negro children, as I very well remember; but is now become ſo rare that I have not ſeen it, more than three or four times, theſe eight or ten years, according to the beſt of my remembrance. Dr. Gliſſon, and others, the firſt writers upon rickets, inform us, that it firſt made its appearance about thirty years before they wrote, i. e. about the year 1620, in the counties of Dorſet and Somerſet, in Great Britain; which, if true, ſhows it to be of very modern date: And from *a chart of the fatal diſeaſes, &c. in London*, collected and publiſhed by Dr. William Black, it appears that it has been gradually declining in that city, theſe ſeventy or eighty

ty years paſt, particularly from 1702 to 1717, (a period of fifteen years) there died of the rickets 3916; and that from 1762 to 1777, (another period of the ſame length) there died only 104. All theſe obſervations ſeem to indicate an utter extinction of this ſcourge of infants.

ANOTHER is the *colica pictonum*, or dry belly ach, as it was commonly called. This painful and diſtreſſing complaint, till about twenty four or twenty ſix years ago, was ſo frequent, that it was no uncommon thing to have ſix or eight, or more patients, ill of it in the courſe of a winter; (the ſeaſon in which it moſtly prevailed, though it was not confined to cold weather:) But now for theſe twelve or fifteen years back, I imagine there has not been five perſons ill of it in this town, if we except a very few who dealt in lead, and who it was evident, derived their diſeaſe from that ſource, ſuch as painters, &c. This ſpecies of colic was formerly attributed to hard drinking; and it is certain that perſons addicted to ſpirituous liquors were generally the ſubjects of it; but its preſent ſcarcity cannot be owing to an increaſe of temperance; for it is a melancholy truth I fear, that intemperance is as prevalent at this period, as it has been theſe forty years. Query—Can this difference be accounted for, from the very general diſuſe of pewter? Pewter is a factitious compound metal, containing a large proportion of lead, and lead is univerſally allowed to be one very common

mon cauſe of this kind of colic: Now formerly the moſt uſual drinking veſſel in the houſes of the poor was a pewter quart pot, and thoſe made uſe of in eating, ſuch as plates, diſhes, baſons and porringers, were almoſt wholly of the ſame material, and theſe not always kept in the niceſt order, but were often, at leaſt the pot, covered on the inſide, with a thin coating of ruſt, or a ſort of ceruſs. But the uſe of pewter is now very much laid aſide, and in the revolution of faſhion, has given way to the more modiſh ſtone, or (as it is commonly called) Queen's ware.—The matter ſeems worth inquiring into.

BOTH the laſt mentioned diſeaſes, I am informed, are as much rarer in ſome of the neighbouring towns, as they are in this; as to others I have no information; nor how the caſe is in the more diſtant parts of the country. Perhaps it would be intereſting to inquire, what diſeaſes have become extinct, or very rare among us, and what new ones have ſucceeded in their room.

INTERMITTING FEVERS of our own growth we ſee none of here, though thirty five or forty years ago, they ſometimes occurred.

TYPHUS, both *mitior* and *gravior*, of Dr. Cullen, were frequent with us, eſpecially in the autumn, from twenty five to thirty five years ago, and proved fatal to many in the vigour and prime of life; it is now, comparatively, very rare.

SCURVY

SCURVY is a diſeaſe we very ſeldom meet with: Sailors ſometimes return from ſea with it, and for the moſt part recover very ſoon; but I have never met with more than a very few inſtances of it generated here at home, in the courſe of my practice.

PUERPERAL FEVER very ſeldom occurs here; it has not ſhown itſelf perhaps more than twice or three times theſe ten years paſt.

I SHALL conclude with obſerving, what I ſuppoſe muſt have been obſerved by all the elder practitioners among us, that acute diſeaſes are much leſs frequent as well as leſs fatal than formerly; and that chronic diſeaſes, particularly *Phthiſis pulmonalis*, have taken their place; and that although our ſpecies deſcend to the grave by paths, a little different from the old ones, yet they arrive at it no faſter than formerly, as our bills of mortality, in proportion to our numbers, are by no means increaſed.

BILL of MORTALITY, for the Town of SALEM, for the year 1786.

DEATHS.

January,	7	Auguſt,	12
February,	12	September,	12
March,	13	October,	10
April,	13	November,	6
May,	17	December,	13
June,	12		
July,	12		139

DISEASES.

DISEASES.

Inflammatory fever,	2	Convulſion,	3
Slow nervous fever,	4	Palſy,	2
Mixed fever,	5	Inſanity,	1
Hydrocephalic fever,	1	Aſthma,	2
Fevers, (ſpecies unknown)	5	Hooping Cough,	13
Inflammatory quinſy,	1	Dropſy, viz.	
Putrid quinſy,	3	Anaſarca,	2
Inflammation in the thorax,	4	Aſcites,	2
Angina pectoris,	1	Pulmonary Conſumption,	20
Inflammation in the abdomen,	1	Hectical Decay,	7
Abſceſs in the thorax, (vomica)	1	Atrophy,	6
Alvine fluxes, viz.		Cancer,	1
Cholera morbus,	2	Worms,	2
Cholera dyſenterica,	9	Canker, (Apthæ)	2
Dyſenteria,	3	Still born,	6
Diarrhæa,	2	Caſualties, viz.	
Lientery,	2	Murdered,	1
Colic, viz.		Executed,	1
Ileus,	2	Drowned,	1
Spaſmodic,	1	Diſeaſes unknown, 16; of which 10 were of infants within the month,	16
Calculi,	1		
Triſmus infantum,	1		139

ARTICLE

ARTICLE II.

An Account of the ULCERATED SORE THROAT, *as it appeared in the Town of* DIGHTON,* *in the Years* 1785 *and* 1786. *Communicated by Hon.* WILLIAM BAYLIES, *A. A. S. and Fellow of the Maſſachuſetts Medical Society.*

DIGHTON, JUNE, 1787.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

THE ulcerated ſore throat came amongſt us in the month of Auguſt, 1785, and continued through the enſuing winter till the autumn of 1786. It did not ſpread with rapidity, but commonly ſeized three or four families in a neighbourhood, and then leaped over into a very different one, returning back again perhaps in the ſpace of two or three months. It uſually invaded children, but adults did not wholly eſcape. Women were more ſubject to it than men. The ſeizure was, for the moſt part, very ſudden: The patient, from a complete ſtate of health, would be reduced in a few minutes to an inability of ſitting up. A pain in the head, back, and joints, faintneſs, nauſea, vomiting, ſoreneſs of throat, and rigors, would often make their aſſault at the ſame inſtant. The pulſe ſoon becomes accelerated,

* County of Briſtol.

ated, and very precipitate, though not full or hard. The eyes grow red and watery, ſimilar to thoſe in the meaſles. In twenty four hours, or leſs, the tonſils are much ſwelled, having been very red from the beginning, with their tops corroded, and ſpecked with white; the fauces, alſo, are much inflamed, with here and there a ſpot of white, which finally turn out eating ulcers; the uvula is, ſometimes, in the ſame condition; and the tongue is covered with a white or yellow mucus. The glands under the ears become largely tumified, and are very hard to the touch. The quickneſs of the pulſe ſtill increaſes, with great heat, ſome degree of reſtleſſneſs, a ſhort, panting, laborious breathing with a peculiar kind of noiſe, and a greater heavineſs of the eyes, which are followed, towards the cloſe of the ſecond day, with an univerſal eruption of red, fiery, itching pimples, which are very cloſe together, and the ſmall ſpaces between them much inflamed. More than half of the adults, and a very few children, were free from this eruption. Upon its taking place, the reſtleſſneſs is diminiſhed, and reſpiration becomes more eaſy; but there is no abatement of the other ſymptoms. The heat with thirſt increaſes; deglutition is rendered more difficult; the tumors enlarge; and a delirium attends, commonly in the night only, till about the latter end of the fourth, or on the fifth day, when a copious ſweat ariſes, which in a few hours terminates the diſorder. The eruption

tion turns pale, the cuticle falls off in ſcales, and, not ſeldom, that of the hands and feet cohering: The pulſe regains its eaſe and ſlowneſs, though ſlightly embarraſſed towards night for a day or two: The ſwellings of the glands gradually ſubſide, but may not entirely diſappear in a fortnight: Reſpiration is performed without labour: The tongue is clean and moiſt; expectoration of a thick matter enſues; the ulcers in the throat caſt off their ſloughs, and appear almoſt healed; the appetite returns, and the patient, by the ſeventh or eighth day from the firſt attack, recovers his uſual health. Sometimes a looſeneſs, inſtead of the ſweat, forms the criſis, and a few inſtances occurred, where they jointly contributed to the ſolution of the fever.

As to the cure, I always found an emetic given as ſoon as poſſible, to be of great ſervice. The diſeaſe ran its courſe with more eaſe, regularity, and fewer alarming ſymptoms than when omitted. In one inſtance of a youth of fourteen, a vomit of tart. emet. put an entire end to the fever, the eruption, notwithſtanding, ſucceeding at the uſual time. Ipecac was the emetic generally exhibited, aſſiſted by a free uſe of warm water.

An emollient clyſter, ſharpened at times with ſea ſalt, was daily adminiſtered. A cathartic was ſeldom given, unleſs an urgent diarrhæa made a doſe or two of rhubarb neceſſary.

A HOT

A HOT room, or a current of air, were equally to be avoided. The patients were allowed a free uſe of all kinds of vegetable acids. Vinegar whey, a little warmed, they were enjoined to drink, eſpecially through the night. They alſo drank an infuſion of flaxſeed and hyſop, ſweetened with honey, whenever a cough attended, which was not uncommon.

A POWDER of crem. tart. and camphor, and the ſaline draught, made with vinegar, were given through the whole complaint, without variation, unleſs the ſymptoms were highly inflammatory; in which caſe, nitre was ſubſtituted for the cream of tartar. They generally required a quieting draught at night. If the pulſe flagged towards the acmé, an addition was made of ſal ſuccin. tinct. myrrh. and an infuſion of the wild valerian, or the ſpirits of mindereri. Pediluvia were conſtantly uſed in the evening, and, at times, ſinapiſms.

BLISTERS were never uſed, except in a retroceſſion of the eruption; at which time, ſucceſs always attended their application.

THE marine acid, ſo far diluted with water, and dulcified with honey as to make it palatable, ſerved for the gargariſm. The ſick, by its allaying the tormenting heat and dryneſs of the throat, and bringing on an agreeable cool ſenſation, expreſſed the higheſt approbation of the medicine.

WHEN

WHEN this diſeaſe was amongſt us, about fourteen years ago, mercurials and antimonials were given with a ſucceſs truly aſtoniſhing: But at this time, the quick, weak and hurried pulſe, the rapid progreſs of the complaint, and the great irritability of the nervous ſyſtem, deterred me from the uſe of them, eſpecially mercurials. And finding the above method anſwer extremely well, I confined myſelf to it.

ON the third or fourth day of the diſeaſe, ſhould the pulſe grow weaker and ſofter, the face and neck put on a very bloated appearance, reſpiration grow more laborious, with a peculiar kind of catching the breath or double breathing; and an anxiety of five or ſix minutes continuance, come on three or four times in an hour, ſuch as induces the patient to bite his hands and arms, death may be expected on the fifth day. This alteration in the diſorder is ſudden, and not to be foreſeen, and, when taken place, I was never ſo fortunate as to find a medicine that would prevent, or even retard the fatal cataſtrophe. The ſkin, after death, would immediately turn very black, and ſometimes, previous thereto, would be ſpotted in many places with green.

IF on the fifth day the criſis is not complete, and the fever and quickneſs of pulſe, though moderated, ſtill keep on to a certain degree, we may then expect a ſuppuration of the tumid glands under the

ears.

ears. This often happened when there was no eruption. Theſe tumors muſt now be ripened as faſt as poſſible: A poultice of white bread, milk, and caſtile ſoap, or Indian meal with milk and water, anſwers this purpoſe. Before this time, I never directed any external application to the throat. During this period they drink a decoction of the woods, and are indulged with a little wine. In a week or ten days, the tumors are ſufficiently maturated to be opened; after which they may be dreſſed with any digeſtive. The bark can now be given with effect. I knew of but one who died of theſe ulcers; which happened about ſix weeks after the ſeizure. The ulcerations were large, the abſorption of matter great, and his knees and ancles greatly inflamed, and about ſuppurating, when the child was obliged to ſubmit to fate. In a few caſes at firſt, I attempted to carry off theſe ſwellings by attenuants, bliſters, and purges; but the conſequences rather confirmed the maxim—*It is ſometimes very dangerous for art, to undertake to defeat a ſuppuration which nature is preparing.*

IN a day or two after the criſis, even when complete, many were ſeized with ſwelled wriſts and ancles, accompanied with redneſs and great pain, in every reſpect ſimilar to an acute rheumatiſm. This was commonly brought on by expoſing themſelves to wet rooms or a damp air. A decoction of ſarſaparilla, the bark of the root of ſaſſafras, garden

ſcurvy

ſcurvy graſs, and the branches of fever wood, would often rout this enemy in twenty four hours. It operated by ſweat.

MANY of the ſick were alſo ſubject, in a day or two after the criſis, to an univerſal tumefaction: From head to foot the cellular membrane would be puffed up like a bladder. At this time they made but little water. Thoſe who had been ſlightly affected with the ulcerous ſore throat, were as liable to this complaint, as thoſe who had been ever ſo roughly treated by it. Neither could I perceive that any irregularity in their conduct could be aſſigned as the cauſe. Though its appearance was alarming, it never proved fatal. A powder of crude ſal ammoniac and ſquills exterminated it in fourteen days.

THIS diſeaſe, within the compaſs of my obſervation, never attacked the ſame perſon twice. Although it was evidently contagious, yet many were ſeized who had not been in the way of infection. I could not determine, though particularly attentive to that matter, the length of time the infection required to manifeſt its effect.

AMONG the many medicines in high eſtimation with the common people, and uſed by them without the advice of the phyſician, I know of none worth the leaſt conſideration, excepting the marſh roſemary, or, as it is commonly called, marſh root.

This

This, in a large doſe, operates as a vomit; in a ſmaller, proves a powerful expectorant; and, from its ſenſible qualities, one would ſuppoſe it to poſſeſs conſiderable antiſeptic powers. I am well aſſured it was the baſis of a medicine uſed by a phyſician in Providence, with very great ſucceſs, in this complaint. It is undoubtedly of great efficacy, and deſerves a more thorough inveſtigation.

ARTICLE III.

EXPERIMENTS *made with the common Cow Parſnip,* (ſphondylium vulgare hirſutum, Park. C. B.) *in caſes of* EPILEPSY. *Communicated by the late* JOSEPH ORNE, *A. M. A. A. S. Fellow of the Maſſachuſetts Medical Society, and Phyſician at Salem.*

SALEM, OCTOBER, 1783.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

SO many medicines having been lately pointed out for the cure of epilepſy, all of which we preſume to be in ſome inſtances ineffectual, I hope no apology need be offered for recommending to farther trials a plant of the growth of our own country, which I believe has produced very eſſential relief

lief in this diſeaſe. I ſhall therefore take the liberty to communicate a detail of thoſe caſes in which it has been preſcribed, with the event of the exhibition in each.

THE plant referred to is the *common Cow Parſnip, ſphondylium vulgare hirſutum, Park. C. B.* It grows in hedges; the ſtalk is large and tubular, inveſted with a down, which alſo covers the leaves, that are large and jagged, five on each ſtalk, and of the colour of wormwood; it is umbelliferous, and flowers in June; the root is divided into ſeveral long fibrous branches, reſembling a large parſley root; and the height of the plant in its maturity, may be from two to four feet: The root has a rank ſtrong ſmell, and a pungent and almoſt cauſtic taſte; it ſhould be carefully diſtinguiſhed from the common parſnip, that grows wild in gardens, and hedges, and indeed, it has a very different appearance.

CASE I.—1772.

G. S. a laborer, aged 30 years, of a ſlender habit, but healthy, coming out of a deep well (in which he had continued an hour to clear it) felt himſelf chilly, ſick at the ſtomach, and vomited copiouſly. The nauſea, with a diſinclination to exerciſe, and a great degree of weakneſs, continued about five weeks, and then in the evening, after a day of labor, he was ſeized with a ſevere fit of epilepſy. I ſaw him juſt as it was going off, and as I knew nothing of the

preceding circumſtances, finding his pulſe full, I bled him; he preſently recovered his underſtanding, and as he made no great complaint, but ſeemed ſleepy and declined taking any medicine, I left him. The next day he followed his labor, and felt as well as before. In a few weeks he had a ſecond, and after a ſhort interval, another paroxyſm; and perceiving his memory, or rather his faculty of recollection greatly impaired, he was much alarmed, and applied for advice. As he ſtill complained of nauſea, and was coſtive, I directed a vomit, and afterwards ſome aloetic medicines, with ſoap, &c. Soon after, however, his diſeaſe returned, and by advice of an eminent phyſician, he took large doſes of camphire in tinct. ſacr. beſides a liberal uſe of valerian, volatile alkali, &c. The progreſs of the complaint ſeemed rather accelerated, till wearied with the diſeaſe, and diſtruſting the efficacy of medicine, he began to deſpair; when one of his neighbours confidently urged him to try *Cow Parſnip*, alledging that it had lately cured his wife of a ſimilar complaint (though in fact it was only an hyſterical indiſpoſition) and encouraged him to expect a cure of it alſo: He forthwith began the uſe of it, and apparently with great and immediate advantage: He firſt felt himſelf relieved of flatulence, which had conſtantly attended him; from confuſed vertiginous ſymptoms, which had greatly increaſed ſince the latter paroxyſms, and when very violent

always

always announced a fit at hand, though he was ſometimes ſeized without a moment of warning: His ſtrength and ſpirits returned; his faculties became brighter; and, unleſs after great fatigue, or long faſting, (as he works hard, and is not of the firmeſt habit) he has never ſuffered a ſingle return. For five or ſix years he has been perfectly free, excepting that he is liable to giddineſs and trembling; but by returning to his medicine, finds infallible relief. I ſaw him only a few days ſince; he complained then of "*the fits working in him,*" to uſe his own phraſe; ſaid he muſt take his medicine ſoon, and ſeemed to depend on its efficacy with the ſecureſt and moſt implicit confidence.

CASE II.—1773.

W. R. aged eighteen years, of that habit which has been denominated phlegmatic; pale, and of lax fibres, after labor in the field in a hot day, and drinking immoderately of ſmall beer, was ſuddenly ſtruck down with a fit, which, from the deſcription, I believed to be of the epileptic kind. I ſaw him afterwards in ſeveral paroxyſms, and they were truly ſuch. I bled this patient, and vomited him repeatedly; gave him quinquina, eleutherium, ſtomachics of every kind, ſteel in various forms, directed the cold bath, and inoculated him with the ſmall pox, which produced a long pauſe; I therefore cut two iſſues ſoon after, and to cloſe the whole, he took

the *Cow Parſnip* very liberally, and with great confidence; yet his epileptic ſhocks ſtill recur, and he is now by turns an idiot or a maniac.

CASE III.—1774.

J. P. a lad of twelve years, of delicate irritable fibres, and liable to incontinence of urine during his ſleep, had been for two years afflicted with epilepſy. Beſides all the applications enumerated above, among which the *Cow Parſnip* had a very fair trial, the good women gave him a whole human placenta, dried and pulverized, which they declared would do wonders, but in vain; the diſeaſe continued obſtinate, and the lad was cured at length by a voyage to ſea. This patient was one of thoſe who are invaded with the fits only during ſleep. From ſome late converſation with Dr. Holyoke, who has ſucceeded in three or four caſes of this kind with a very different medicine, I ſuppoſe it is another ſpecies of the diſeaſe.

CASE IV.—*December*, 1782.

J. D. about forty years of age, ſuddenly fell down in a ſtate of inſenſibility. I was called inſtantly, and found him under a complete and ſevere paroxyſm of epilepſy: In two or three weeks he had a ſecond attack; and by the laſt of March he had eight fits, ſo that they had become habitual. I gave him only a vomit at each return, as his ſtomach was liable to be diſordered; for he was not only intemperate,

perate, but very irregular in his manner of living, eating voraciouſly at ſome times, and ſtarving at others, as opportunity or neceſſity determined him; and conſtantly chewing great quantities of tobacco. Having heard that the flowers of zinc had loſt reputation among the medical gentlemen at Boſton, and knowing nothing then of the cuprum ammoniac. of the ſucceſs of which, in this diſeaſe, ſome caſes are related in the laſt volumes of the Edinburgh Medical Commentaries, I determined to wait till the ſeaſon for gathering the *Cow Parſnip*, and try it fairly; becauſe I had once known it to ſucceed, which I could not ſay of any other medicine that I had ever given to an adult epileptic ſubject. About the 10th of April, 1783, till which time the acceſſions grew more frequent, he began the uſe of it: He was then much debilitated in body; his mental faculties were perceptibly impaired, and his aſpect and manners indicated a moſt pitiable declenſion of the general conſtitution. From the time he uſed the *Cow Parſnip* he has never had a ſingle return of his complaint; he feels none of that confuſion and vertigo, which he always conſidered as the ſigns of an approaching paroxyſm; his general health is good; his faculties perhaps as vigorous as before, and the whole appearance of the man eſſentially improved. Once after long faſting, and great fatigue, being ſurpriſed in a ſmall fiſhing boat by a ſtorm, he felt himſelf extremely diſordered, and

confidently

confidently predicted a new acceſſion of his diſeaſe, of which he has the ſevereſt terrors; but a warm ſupper, and a more liberal potation of his medicine, reſtored him to his wonted calmneſs. I ought not to omit that excepting the diſuſe of tobacco, he never changed his habits of living.

CASE V.

IN May, 1783, I directed the *Cow Parſnip* to a girl, eighteen or twenty years old, ſaid to have ſuffered ſeveral attacks of epilepſy. I queſtioned the perſon who applied to me, and believed that to be her diſeaſe; ſince then I have converſed with the patient, and thoſe who have ſeen her in the fit, and they very exactly deſcribe the epilepſy. She was always in ill health, from the firſt invaſion, till ſhe uſed this medicine; complained of loſs of appetite, anxiety, diſtreſs, and trembling in the region of the ſtomach, &c. Since then ſhe has been entirely free from every complaint: But it is remarkable, that having expended her firſt ſupply, and being obliged to remit the uſe of it for eight or ten days, her unfavorable ſymptoms returned; but were removed as ſoon as ſhe could have recourſe to the medicine. I ſaw her a few weeks ſince; ſhe was then in good health.

I HAVE commonly preſcribed two or three drachms of the pulverized roots to be taken every day

day for a great length of time, and a ſtrong infuſion of the leaves and tops to be drank at bed time. The patient in the fourth caſe chewed it, inſtead of tobacco, conſtantly.

ON reading this plain narrative of five epileptic patients, three of whom ſeem to have derived eſſential relief from the medicine here recommended, while two others received not the ſmalleſt advantage, it is obvious to remark, that in different ſubjects the diſeaſe may be ſpecifically different. But although it has been in my way to have ſeen the trial of the cow parſnip oftener than any phyſician of my acquaintance; and as matter of novelty, and curioſity, I have minutely attended to its effects in all theſe caſes, yet I cannot point out any of thoſe pathological diſtinctions which are to determine when it may be moſt expedient to adviſe it; unleſs we may be guided in the preſcription, by this circumſtance, which I well remember, that in the three fortunate caſes the patients were remarkably liable to flatulence, with ſymptoms of morbid ſenſibility of the ſtomach; and date their firſt relief from the ſenſation of a more firm and healthful tone of that organ, and the camianative effects of the medicine. If what is here related ſhall induce any gentleman to make trial of it, I ſhall be happy to be confirmed in the opinion that it is a medicine of great efficacy, and will perhaps not unfrequently be found to produce very agreeable effects.

ARTICLE

ARTICLE IV.

An Account of the ſucceſsful Treatment of a PARALYSIS *of the* LOWER LIMBS, *occaſioned by a curvature of the* SPINE. *Communicated by* NATHANIEL W. APPLETON, *A. M. A. A. S. Fellow of the Maſſachuſetts Medical Society, and Phyſician at Boſton.*

BOSTON, OCTOBER, 1786.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

IN the courſe of the preſent year, a caſe of paralyſis of the lower limbs has occurred to my practice. I now take the liberty to communicate it, for your inſpection; probably the ſucceſs attending the treatment, may induce others to try the like method in ſimilar caſes.

JOHN ———, a negro boy, born in this town; at the age of ten months could go alone, and appeared in every reſpect a well formed and healthy child, until he was about twenty two months old, at which time he was obſerved to faulter in his ſteps and to trip up, without any evident cauſe, when walking acroſs the floor. Upon endeavoring to ſtand upright, his ancles and knees grew ſtiff, and

he

he would pitch forward. When held up by the arms he would point his toes forward, throw his body back, and in that poſition allow himſelf to be moved onward, but without touching his heels to the ground. At this time, viz. about 15th laſt March, I was ſent for to viſit him, and upon finding his complaints as mentioned above, immediately ſuſpected his diſorder to ariſe from, or be accompanied with, a curvature of the ſpine; a diſeaſe particularly treated of by *Pott*, in ſome of the late editions of his chirurgical works, and called a paralyſis of the lower limbs. Upon viewing the child's back, there was evidently a curvature of the dorſal vertebræ; alſo an oblong ſwelling nearly the ſize of an hen's egg, ſituated between the baſe of the right ſcapula, the lower vertebræ of the neck and upper of the back, which gave him ſome pain when handled. In addition to moſt of the ſymptoms mentioned by that author, there was an almoſt conſtant and very painful erection of the penis, eſpecially when put upon his feet; he was not able to turn himſelf in bed, and when ſitting in a chair, would bend his head forward almoſt to meet his knees. Several medical gentlemen of my acquaintance viſited the child with me; we all agreed that this was a proper ſubject for a trial of *Pott's* method of treatment.* Accordingly on 25th March, I applied two cauſtics, each of the ſize of a nine pen-

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* *Vide* the chirurgical works of Percivall Pott, F. R. S. Vol. III. page 393. *Lond.* 1783.

ny piece, one on each ſide of the middle of the dorſal vertebræ, about two inches apart. In a few days the eſchars threw off. After ſome time and trouble the iſſues began to diſcharge, and the patient remained much the ſame, until about three months after the running commenced; at which time all the bad ſymptoms began to leſſen; he could turn himſelf in bed, and could walk a little by holding of the chairs, &c. exactly ſimilar to a young childs' firſt learning to go alone. He has now entirely recovered the uſe of his limbs, and is apparently as well as ever, or as any other child of his age. One of the iſſues healed up in a few weeks, the other remains open; the tumor mentioned above has almoſt diſappeared, and gives no pain when handled.*

* The iſſue remained open twelve months; the tumor has diſappeared, and the patient been well ever ſince.—*March*, 1790.

ARTICLE

ARTICLE V.

Remarks upon the ſuperior advantages of covering with the ſkin, parts recently expoſed. *Communicated by the late Dr.* EDWARD WYER, *Fellow of the Maſſachuſetts Medical Society, and Phyſician at Halifax, Nova Scotia.*

HALIFAX, DECEMBER, 1784.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

AMIDST the many improvements that are daily made in the different branches of our profeſſion, the great ſucceſs which has been found to follow attempts to cover large denuded ſurfaces (after capital operations) with the natural ſkin, inſtead of lint and other ſubſtances, appears to demand particular attention.

A PAMPHLET* lately publiſhed in England upon an improved method of amputating, and treating the ſtump, was ſent me ſhortly after it made its firſt appearance. The plan propoſed, appeared to me ſo rational, that I determined to try it whenever a proper

* Practical obſervations upon amputation and the after treatment. By Edward Alanſon, ſurgeon to the Liverpool infirmary. *Lond.* 1779.

proper caſe ſhould occur. Shortly after, I had occaſion to amputate a leg, and an arm ; I proceeded as the author (Mr. Alanſon) directs : The very favourable event ſurpriſed ſeveral of my medical friends, who were ſpectators of the whole proceſs. The ſtump of the leg was completely healed in ſixteen days, the arm in three weeks. I am confident there was not ſecreted, upon both ſtumps together, ſo much as four ounces of pus ; the patients never complained of the leaſt pain in removing the dreſſings, or did a ſingle unpleaſant ſymptom occur from the amputation of either.

AS I preſume the pamphlet I have mentioned has been ſeen by the faculty in New England, I think it needleſs to repeat the particulars of my procedure in the above caſes, when I affirm that I followed in every particular, the method therein recommended.

IN a child of four years of age, I lately cut for the ſtone, the cure was completed by the firſt intention in the courſe of thirty days, without the leaſt inflammation or formation of matter.

A FRIEND of mine in London, has lately ſent me a caſe in which it was neceſſary to apply the trepan. The bone was firſt laid bare, by dividing the ſcalp with a crucial inciſion, and then diſſecting back the four corners ; care was taken to leave the pericranium on every part, but juſt where the bone

was

was to be taken out. After removing the extravaſated blood from the dura mater, the parts were carefully cleanſed by a ſoft ſponge, and warm water; then the four flaps of ſkin, with the adhering cellular membrane which had been turned back, were brought into their proper places, and ſecured by ſtrips of ſticking plaiſter; they ſoon united with the pericranium, and the cure was completed in leſs than half the time, which is generally found neceſſary in the uſual way of proceeding in ſimilar inſtances.

THE caſe I have now taken the liberty of laying before your ſociety, appears to me a moſt convincing proof of the great propriety of endeavoring in every caſe, which will admit it, to cover with the ſkin, ſuch parts as have been laid bare in any kind of injury, or operation.

ON the 15th of November, 1784, M. Reed, aged 45, deſired my opinion, of a large ſwelling ſituated upon the back ſide of the middle of the left thigh. She informed me it had been gradually forming ſeven years; that its increaſe lately had been very rapid; it was free from pain, but was very inconvenient when ſhe either ſat or walked.

I FOUND the ſwelling in the place mentioned; its ſize was about that of two fiſts, the figure conical; it meaſured about ſeven inches in circumference at the baſis; was about five inches high, and

terminated

terminated in a point like the dug of a cow: The colour of the body of it was white; towards the end it was of a deep red; it had the uſual feel of a ſteatomatous tumor, and ſeemed to originate below the ſurface of the thigh.

FROM a conſideration of its ſituation, which was at ſome diſtance from any large veſſels; of its increaſe, which lately had been rapid; and of her general health, which was good, I adviſed an immediate removal of it. She conſented, and on the following day I did it; firſt making a longitudinal inciſion, and then diſſecting it out, in doing which, I had occaſion to lay bare a portion of the pectineus, and part of the two leſſer heads, of the triceps femoris muſcles. As my patient was poſſeſſed of great fortitude, I took my own time, and diſſected out the cyſt complete; two ſmall arteries were divided, which were eaſily ſtopt by the fingers of an aſſiſtant. I was very careful to ſave as much ſkin as poſſible, a precaution I have often experienced the utility of, in different operations. Upon cleanſing the cavity with a ſponge and warm water, it appeared very large, and gave me good reaſon to expect conſiderable time would be neceſſary to complete the cure.

INSTEAD of cramming the wound with lint, &c. as is the cuſtom after moſt large operations, I made an attempt to bring the oppoſite edges of the ſkin into

into contact; I found it might eaſily be done. I now thought this a good caſe, in which to try what might be effected, in attempting to cover ſo large a cavity with the ſkin, and effect a reunion by the firſt intention, without the interpoſition of any foreign body whatever. I accordingly retained the oppoſite ſides of the ſkin, and cellular membrane, by ſeveral ſtiches at about an inch diſtance from each other, the edges fortunately fitted very exactly; I left the moſt depending corner open as a drain; the wound was then covered with dry lint, over that a compreſs, and the whole ſecured by the common ſpiral bandage.

THE next day I found my patient walking in the yard, without the leaſt pain. I immediately ordered her to bed, and enjoined perfect reſt, fearing the ſtitches might be broke out by motion. As the dreſſings remained as I left them the day before, I made no attempt to remove them. On the day following, I found the dreſſings moiſtened with a diſcharge; I now removed them, and found the edges of the wound in perfect contact; not the leaſt ſwelling or inflammation; no fever, nor any one unpleaſant ſymptom. I applied a ſmall pledgit of wax and oil, and left her in bed, but was told at my viſit the next day, that ſhe was too well to be confined. I dreſſed her as before: Judge what muſt have been the ſatisfaction I felt, upon handling the part, to find that the cavity ſeemed in

a manner obliterated; that the corner I had left open, was the only appearance of a wound; that the matter diſcharged was good, though rather copious; that a complete reunion had taken place; in a word, that there was not the leaſt drawing or ſtretching upon moving the leg; that ſhe could eat, drink, and ſleep, and was in good ſpirits, thinking herſelf almoſt well.

I GAVE her the bark, to obviate the conſequences of a too free diſcharge, and ſtill enjoined reſt.

I CONTINUED to dreſs her as above, for ten days longer, at which time the lower corner was cloſed, not the leaſt deformity remained, and ſhe was diſcharged in perfect health, in twelve days from the operation.

UPON opening the tumor after it was removed, a fatty ſubſtance was found, contained in a complete cyſt.

THAT parts poſſeſſing the principle of life, when deprived of their natural covering, and kept in contact, will readily unite, is proved not only by many experiments made to aſcertain the fact, but alſo by daily experience in practice.

THAT to a muſcle, nerve, tendon, or blood veſſel, laid bare by any means, a ſofter and leſs irritating ſubſtance cannot be applied than that of the ſkin and cellular membrane, is determined beyond diſpute.

THAT

THAT granulation proceeds moſt rapidly where there is leaſt irritation, is a fact generally admitted.

THAT the quantity of pus depends upon that particular configuration of veſſels, which inflammation produces, all allow.

AND, that the inflammation will depend upon the degree of irratibility of the parts, and the degree of ſtimulus applied to them, is extremely obvious.

THE concluſions I would draw from the above particulars, are, that in every inſtance where the ſkin can any way be brought to cover parts lately expoſed, the conſequences will be, the ſaving the patient much pain and inflammation; and if the part is extremely irritable, perhaps frequent ſpaſms, and conſiderable fever. The granulation by which the loſs of ſubſtance will be reſtored, will be much more rapid, and all or moſt of the diſagreeable conſequences of large diſcharges, ſloughing of the neighbouring parts, &c. will by this method of dreſſing be in a great meaſure prevented. To ſupport theſe concluſions, I think the caſe I have related might with propriety be quoted; but every gentleman who has been in the habit of ſeeing much buſineſs, muſt be convinced of the ſuperior advantages of the method I followed in this caſe to thoſe commonly uſed in ſimilar inſtances.

IT affords a pleaſant reflection that our art, like the art of war, is humanized in a degree not known in former ages; and that the freedom of inquiry ſo generally admitted at this day, joined to the liberal manner in which each individual appears diſpoſed to communicate his diſcoveries to his brethren, are the ſources from which we have derived, and may ſtill continue to derive, the moſt uſeful information.

ARTICLE VI.

A Caſe of EMPYEMA, *ſucceſsfully treated by the Operation. Communicated by* ISAAC RAND, *Eſq.* Vice Preſident *of the Maſſachuſetts Medical Society, and Phyſician at Cambridge.*

CAMBRIDGE, MAY, 1783.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

IN May, 1756, James Monro, an apprentice to a blackſmith, in Cambridge, was ſeized with a pleuro peripneumony. The third day of the diſeaſe I ſaw him, bled him that and the next day, and with the uſual treatment, the complaints partially terminated the ſeventh, by expectoration. I ſaw him occaſionally from time to time, until the 8th of June;

June: He then went to his parents at Lexington, and continued there about fourteen days, in which time he grew much worſe. June 27th, late in the evening, I was deſired to viſit him, and was informed that two days before, when his brother was helping him from his horſe, ſomething had broken within him, but had no diſcharge by the mouth; I was much ſurpriſed to find his thorax ſo largely diſtended, and attended with vaſt difficulty of reſpiration, which threatened ſuffocation; upon preſſure from ſide to ſide, or from the back to the breaſt, there was an evident fluctuation of a great quantity of fluid, and no expectoration. I propoſed, as the only method of relief (the operation for the empyema) which I could ſuggeſt. He was very averſe to it; but after a little reflection, as he was conſcious that he was in extreme danger, he conſented. Being called ſo late in the evening, and not being provided for the operation, as I was then three miles from home, deferred it until the next morning. I ſaw him early, and nothing having occured to prohibit the evacuation of the fluid, I made an opening of three quarters of an inch, at the uſual place on the left ſide, as his complaints had been moſt ſevere there, (no one part being more prominent than the other) and diſcharged about five pints of thick pus. As he began to faint, I ſtopped the orifice, and ſecured the dreſſings with proper bandage. On the ſecond morning the diſcharge was about the ſame quantity; on the third

morning about two quarts, and at each time flowed with great violence. On the fourth morning I found him very faint; a great quantity of pus had been diſcharged; had wet through the feather and ſtraw bed, and near a quart of pus ran on the floor. Upon removing the dreſſings, I was much ſurpriſed to find a part of the lungs (as big as a nutmeg) protruding through the orifice in the ſide, in a mortified ſtate; and as in deſperate caſes, doubtful and bold methods may be purſued, I extracted the part of the lungs, until I diſcovered the termination of the diſeaſed part, and cut it off cloſe to the uninfected part, and then replaced it in the thorax, and ſecured the dreſſings in ſuch a manner, as to prevent the like accident again. On the fifth day from the opening his ſide, he received the fumes of pulv. G. thuris, maſtich. myrrh. et oliban. through an inverted funnel into his lungs by his mouth, and in nine days the fumes paſt through his lungs and came out at the orifice in his ſide; during which time he took no medicine but a decoction of cort. peruv. the abſceſs and the external opening healed in ſixteen days, and he recovered his uſual ſtate of health. In the month of October following he went as a ſoldier to garriſon fort Cumberland, in Nova Scotia; was there eighteen months; returned in good health, and has followed his buſineſs of a blackſmith ever ſince. He is ſubject to the aſthma, but it is a family diſorder.

ARTICLE

ARTICLE VII.

Observations on the HYDROCEPHALUS INTERNUS. *Communicated by* ISAAC RAND, *jun. A. M. Fellow of the Massachusetts Medical Society, and Physician at Boston.*

BOSTON, APRIL, 1789.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

THE hydrocephalus internus is a disease, so insidious in its attack, often rapid in its progress, and fatal in its termination, that any hints arising from the inspection of the parts diseased, that may tend to point it out in its access, and contribute to a more successful mode of practice than the present, I doubt not will be candidly received by physicians.

I HOPE to throw some light upon the disease, in the following observations, upon the appearances of the internal parts of the head of S. W. who died of an acute hydrocephalus internus, the 20th of January, 1789, whom I first saw in the second stage of the disease, the 10th of the month. The 21st I inspected the head in presence of Dr. Kast.

AFTER

AFTER the integuments of the cranium were removed, the bones, inſtead of a blueiſh white, appeared rather of a florid color; and when ſeparated from the dura mater, the veſſels of the internal parts of the cranium were turgid with blood: But there was no effuſion of blood or water between the dura mater and the cranium, or between the membranes and brain. The dura and pia mater were inflamed; the veſſels to their remoteſt ſeries in the convolutions and plicatures of the cerebrum and cerebellum were very much diſtended with blood; and upon removing the hemiſpheres of the cerebrum, we found, under the corpus calloſum, in the lateral ventricles, between two and three ounces of a pellucid lymph, which guſhed out with great force; and upon gently moving the head from ſide to ſide, a fluid, tinged with blood, flowed out to the amount of almoſt an ounce. The other parts were in a natural ſtate.

THE hydrocephalus internus has been eſteemed by moſt phyſicians, except the late Dr. Fothergill, a chronic diſeaſe. In this child it was evidently an acute one. I had never before ſeen this diſeaſe in ſo young a child,* although I have attended ſeven with it: One adult, a miſs of ten years, and five, all females, between five and three years of age; in all of whom it was an acute diſeaſe, except the adult.

FROM

* Eighteen months.

FROM the rather florid appearance of the external and internal parts of the bones of the cranium, the plethoric ſtate of the veſſels of the meninges of the brain, is it not probable that the effuſion of water into the ventricles of the brain, was the effect of inflammation or plethora of the veſſels of the brain; than that the preſſure of the water in the ventricles was the cauſe of inflammation of the meninges? In ſupport of this opinion, I would obſerve* the plexus choroides is a vaſcular web, conſiſting of a great number of arterial and venal ramifications, partly collected in two looſe faſciculi, which lie one in each lateral ventricle, and partly expanded over the neighbouring parts; and continued in part into the third ventricle; from which ſtructure any inflammation or plethora of the veſſels of the brain in young ſubjects, or adults of a lax irritable habit, will more probably produce an effuſion of water into the ventricles, than any other parts of the brain: For by the great diſtenſion of the ſanguiferous arteries, the lymph will be exhaled in too great quantities for the lymphatics to abſorb; the conſequence of which will be a dropſy of the ventricles of the brain. May we not thence infer that the hydrocephalus internus is a conſequence of, and not an idiopathic diſeaſe? † Wepferi hiſtoriæ apoplecticorum furniſh inſtances of the ventricles being partly filled with lymph, and the

* Winſlow's Anatomy of the Brain.

† Hiſtoriæ apoplec. hiſt. ſecunda, tertia et quarta.

the plexus choroides being turgid with blood, and otherwiſe diſeaſed. Morgagni* de cauſis et ſedibus morborum per anatomen indagatis, in epiſtola de apoplexia ſeroſa, mentions the plexus choroides being turgid with veſicles of water; and ſubjoins, at No. 33, "ſed tu fortaſſis cum iis facis qui aquæ effuſionem malunt nunquam apoplexiæ cauſam eſſe ſed effectum ejuſdem cauſæ, quæ apoplexiam facit, ut puta ſanguinis in vaſis quæ in cerebro et circa cerebrum ſunt reſtitantis."†

THE proximate cauſes of the inflammation and plethora of the veſſels of the meninges of the brain, are

* Morgagni de cauſis et ſed. morb. in epiſtola duodecima de hydroceph. interno.

† "The parts of the body are ſucceſſively evolved; the head, which for ſeveral purpoſes of the animal economy, is firſt evolved, and comes firſt to its full ſize. This certainly happens from the veſſels of the head, being in reſpect of capacity and denſity, ſuited to that end; and conſequently in the firſt part of life, the blood is determined, in a proportionally greater quantity, into the veſſels of the head, than into other parts of the ſyſtem; and it is ſufficiently probable, that this proportion is greater as the animal is nearer to its origin, and continues greater till the body attains its full growth."* After the bones of the cranium are ſo far oſſified as to prevent any further enlargement of its contents, the chylopoetic ſyſtem ſtill generates ſuch a quantity of fluids, as not only to repair the waſte of the body by exerciſe, &c. but to contribute to its increaſe, till it has attained its acmé. In infancy, therefore, there is a greater diſpoſition to a plethora of the veſſels of the brain, which renders that age more ſubject to diſeaſe, terminating in hydrocephalus internus, than perhaps any other ſtage of exiſtence.

* Cullen's Materia Medica. Diſtribution of the Fluids, Art. III.

are an increaſed action of the veſſels in the ſyſtem in general; an inflammatory diatheſis; ſuppreſſed excretions; violent exerciſe; unnatural poſitions of the body and head; a ſpaſm upon the ſuperficial veſſels; the expoſure of the naked head to the ſun, and whatever may directly ſtimulate the membranes of the brain.

THE diagnoſtic is of the utmoſt importance, eſpecially in the firſt ſtage; as we may infer from the many hiſtories of unſucceſsful caſes, although attended by the moſt eminent of the profeſſion in Europe and America; and I fear ever will be, unleſs we can diſcover the diſeaſe before it arrives at the ſecond ſtage, when the pulſe begins to be ſlower than natural, and irregular: Then every effort will prove abortive, as the effuſion of the lymph then begins to take place in the ventricles of the brain.

CHILDREN, and ſome adults of irritable habits, are the ſubjects of it.

IN the firſt ſtage the pulſe is quick, ſometimes hard and feveriſh; the head is always hot from the firſt acceſs, as are the præcordia.

THE fever is irregular in its acceſſions and remiſſions; of no certain type, but increaſing towards evening. Moſt complain of a pain in ſome part below the head; moſt commonly about the nape of the neck and ſhoulders.

THE

THE head and ſtomach are diſordered more or leſs from the beginning; ſome have violent head-achs, and ſickneſs at the ſtomach alternately, and often complain of a moſt acute pain, deep ſeated in the head, and extending acroſs the forehead, and through the temples; often crying out in the moſt affecting manner—*Oh, my head! Oh, I am ſick!*—are reſtleſs in the night; ſcreaming, as if ſomething had hurt them, and ſqueeze the ſides of their head with great violence.

THEY are averſe to light,* and ſhun it as much as poſſible: The pupils are a little contracted; they vomit once or twice in a day: Some bleed at the noſe, which affords a temporary relief. One circumſtance, almoſt peculiar to this diſeaſe, all without exception are ſo coſtive, as to require the moſt active cathartics, aſſiſted with ſtimulating glyſters to procure ſtools, which are of a very dark greeniſh color, with an oilineſs, or glaſſey bile, rather than the natural ſlime that accompanies worms; and ſingularly offenſive.

THEY are averſe to motion; loſe their appetite; are thirſty, and ſwallow with great greedineſs. Moſt of the complaints ariſing from irritation of the brain,

* The contraction of the pupils, and the averſion to light, in the firſt and beginning of the ſecond ſtage of the diſeaſe, depend upon the inflamed ſtate of the meninges of the brain, which increaſe the ſenſibility of the iris.

brain, accompany this diſeaſe.* In the ſecond ſtage the pulſe is ſlow; very irregular; often not exceeding forty in a minute; the pupils are dilated; ſometimes there is an extreme vigilance; oftener a ſomnolency.

DR. Cullen defines it in his noſology, apoplexia hydrocephalica paulatim adoriens; infantes et impuberes, primum laſſitudine, febricula et dolore capitis, dein pulſu tardiore, pupillæ dilatatione; et ſomnolentia afficiens: And ſubjoins in a note, in opere noſologico, morbos qui ſub ſuo decurſu, variam induant formam, rite collocare, ideoque apoplexiæ hydrocephalicæ locum maxime idoneum aſſignare, difficile eſt. Hunc morbum autem ſub apoplexiæ potius quam hydrocephali titulo ponere vellem: Primo, quia hydrocephalus, qui hic ſubeſt, nequaquam ſenſibus evidens eſt; dein quia hic morbus ſymptomatis ab hydrocephalo evidente plurimum differt. Denique, quia cauſa proxima et tandem ſymptomatis, apoplexiæ quam maxime affinis eſt.

METHOD *of* CURE.

IN the firſt ſtage the moſt active remedies are to be uſed, ſuch as venæſection at the arm or jugular vein.

* *Vide*, Whytt on hydroceph. intern. Fothergill and Watſon, in London Medical Obſervations and Inquiries, vol. 4th. Motherby's Medical Dictionary, voce, hydroceph. int. Ree's edition of Chambers' Cyclopœdia, voce, hydroceph. intern. Percival, and Dawſon, in Duncan's Medical Commentaries; and Symmons, in ditto.

vein. Apply leeches to the temples, and behind the ears; ſcarify and cup the temples; excite an hemorrhage at the noſe; ſcarify and cup the nape of the neck;* give gentle cathartics, as they operate by revulſion, cool the body, and remove any difficulty in the circulation through the lower belly; aſſiſt their action with ſtimulating glyſters; keep the body in an erect poſition, as it leſſens the impulſe of the blood upon the head, and facilitates the return of the refluent blood; ſhave the head, bathe it with æther, as evaporation generates cold by abſorbing the heat from the contiguous parts, and will have a tendency to leſſen the inflammation of the internal parts; bliſter the whole head, and keep up the diſcharge with the veſicating ointment; bliſter the nape of the neck, the temples, and behind the ears; uſe warm pediluvia; give ſaline draughts and ſaline diuretics. May not nauſeating doſes, by leſſening the ſpaſm upon the veſſels of the brain, eaſing pain, and diffuſing the circulations, be advantageous?

PERHAPS

* Morgagni venarum occipitalium inciſſionem eximie collaudat; quia hæ venæ intra cranium cum utroque laterali ſinu communicant, eaque propter inſtituta ipſarum ſectione ſanguis quem in ſinus convecturæ erant, avertitur, atque hinc reliqui ſanguinis, qui per eoſdem ſinus progeditur, copia minuitur aliquantulum, motus autem non ſine emolumento augetur. Quia vero harum venarum trunci profundius ſiti, et non nunquam in plures minores que ramos diviſi reperiuntur, *cucurbitulas et crebas, altaſque inciſſiones* ante ferendas putat."——*Hofmanni Medic. ratio, Syſtem: Tom, IV de hæmorragia cerebri.*

PERHAPS ſome from timidity may be reſtrained from bleeding ſuch young ſubjects, to whom this diſeaſe is moſt incident. The great Sydenham* long ſince has combated this prejudice, and proved the great utility of venæſection in many diſeaſes of infants.

IN the ſecond ſtage, nothing has been propoſed that I know of, that is adequate to the cure or relief. There is therefore every ſtimulus to induce phyſicians to mark with preciſion the ſymptoms denoting the diſeaſe in the firſt or inflammatory ſtage.

MERCURY has been propoſed by the very ingenious Percival and Dawſon, "and much has been ſaid in favour of exciting a ſalivation by mercury, at leaſt of uſing it ſo as to reſtore the neceſſary abſorption of the fluids in the ventricles of the brain; but it is objected that when mercury has been uſeful, the diſeaſe has been miſtaken, and that it was not the hydrocephalus internus."†

TO this obſervation it may be added, that the diſeaſe would probably be increaſed by mercury, when uſed to excite a ſalivation in the firſt ſtage, as it would

* Sydenham Hiſtor. Morbil. epid. Anno. 1674, et Mead de Morbillis.

† London Medical Tranſactions, Vol. II. Edinburgh Medical Comment. Vols. V. VII. VIII. Motherby's Medical Dictionary, voce, hydroceph. int. and Medical Obſervations and Inquiries, Vol. VI.

would, by its irritation, accelerate the fluids in the carotids and vertebral arteries, and therefore increaſe the inflammation; and is problematical in the ſecond.

IN one caſe of an adult, in whom the diſeaſe was rather chronic, a perpetual bliſter to the head, and a ſeton in the nape of the neck, afforded a temporary relief, and protracted life.

IN the year 1783, a gentleman of the faculty obſerved to me, that he had inſpected the head of a child, who died with all the ſymptoms of the hydrocephalus internus; and that he and another phyſician were ſurpriſed that there was no water in the ventricles of the brain, but that the meninges of the brain were very much inflamed.

THIS obſervation led me to pay particular attention to this diſeaſe; and the next child I ſaw with it, which was in 1784, I propoſed, in a conſultation with Dr. Danforth, venæſection; and notwithſtanding the diſeaſe was in the beginning of the ſecond ſtage, it afforded great relief from pain, and a truce to the diſeaſe; however, the child died.

IN the year 1785, the ſiſter of the laſt patient was ſeized with violent pain in the head, deep ſeated, and extending through the temples, with an impatience of light, ſickneſs at ſtomach, extreme coſtiveneſs, no appetite. Her mother early conſulted me,

and

and obſerved that this child's complaints were ſo ſimilar to thoſe of the other daughter, who had died the year before, that ſhe was much alarmed; and therefore aſked my advice.

I THOUGHT it was an incipient hydrocephalus internus. I bled her largely at the arm, gave her cooling ſaline cathartics; hauſtus ſalinus; uſed warm pediluvia, and a ſtrictly antiphlogiſtic courſe of medicines and diet, by which ſhe was reſtored to health.

SINCE I wrote the above, I have ſeen an inaugural theſis in the theſaurus medicus novus Edenſis, by Dr. Quin, de hydrocephalo interno, publiſhed 1786. When I read it, I was ſurpriſed that Dr. Quin, ſo long ſince as 1779, ſhould have hinted, and brought ſome diſſections of ſubjects who had died of this diſeaſe in proof of the hydrocephalus internus, being a conſequence of inflammation of the meninges of the brain; and propoſed a method of cure, ſo very different from every author I have ſeen upon the ſubject before him: And that no author who had ſince written upon the ſubject, that I know of, ſhould have mentioned it.*

THE

* The following detached Eſſays on this diſeaſe have been publiſhed ſince 1779:——Manning's improvements in the modern practice of phyſic, laſt edition.—Lee Perkins, vol. I, of ſecond decad Med. Commentaries, 1786.—Motherby's Medical Dictionary, ſecond edition, 1785.—Doctor Ree's edition of Chambers' Cyclopœdia, 1786.—Hooper and Lettſom in memoirs of the London Medical Society, vol. I, 1786. None of which take any notice of Quin's theſis.

THE monthly review, for November, 1785, obſerves, that Dr. Withering, on the digitalis, conjectured that the diſeaſe aroſe from inflammation. I have not ſeen the eſſay on the digitalis.

APPENDIX.—*March*, 1790.

J. H. a miſs between four and five years old, of a light complexion, a delicate, irritable habit; was ſeized 22d January, 1790, with violent pain in the fore part of the head; an inceſſant vomiting of bile and phlegm. She had been coſtive ſome days, and had at times complained of pain in the head and neck, previous to this ſeizure.

AFTER ſhe had been indiſpoſed three days, as her mother thought ſhe had the ſymptoms of the meaſles, ſhe gave her a vomit, which operated kindly; notwithſtanding, the ſickneſs, pain in the head, and coſtiveneſs continued. The 28th, I firſt ſaw her, late in the evening; ſhe was in great diſtreſs; inceſſantly ſcreaming; the muſcles of the lower limbs and abdomen were ſpaſmodically affected, and the legs and thighs contracted towards the abdomen: She vomited often, and was delirious; the pulſe ſmall, hard, and irregular. Three ſtimulating glyſters were given, which procured large fæcal diſcharges: An antiemetic anodyne draught, ſuppreſſed the vomiting, and relieved her of the ſpaſms of the muſcles of the abdomen and lower limbs; and

procured

procured eaſe, and a better night than ſhe had had for a week. As ſoon as the ſickneſs was ſuppreſſed, ſhe took an ounce of ſoda phoſphorica, and an ounce of manna, diſſolved in two tea cups of water, at three doſes.

THE 29th, ſhe was ſenſible, the pulſe ſlow, hard, and irregular, the tongue a little furred in the middle; ſhe ſaid her head ached; preſſed the ſides of it, and often moaned, *Oh, my head!* through the day. The light was not offenſive to her eyes, and the pupils contracted in the uſual light of the chamber, and immediately dilated upon excluding it.

AS ſhe had been long coſtive, and the ſoda phoſphorica, &c. had not operated, ſhe took a ſecond doſe, and was directed to receive glyſters until ſhe had diſcharges from the bowels. The cathartic gave her two ſtools, and ſhe vomited once; ſhe ſeemed to be refreſhed by the ſleep of laſt night; ſhe took liquid nouriſhment greedily. I now ſuſpected there might be a tendency to hydrocephalus internus: Her cheeks were fluſhed, but the upper lip had that ſwelling which Dr. Home, in his clinical obſervations ſays, conſtantly accompanies worms in the bowels; but the alæ naſi were in a natural ſtate. I was dubious until I had thoroughly cleanſed the primæ viæ, whether the ſlowneſs and irregularity of the pulſe depended upon the affection of the primæ viæ, worms, or an inflammation of the meninges of

the brain ; but as the bowels were now diſcharging good fæces, of rather a lax nature, I now attributed the pains and moanings to the inflammation of the meninges of the brain. I therefore bled her in the arm ; and although the evacuation by the vein was but ſmall, and the complaint in the ſecond ſtage, it gave her relief. I would have bled her again, but it was impoſſible to obtain any more blood by venæſection. Unfortunately we have no leeches, at leaſt I never could procure any. She was ſenſible, and complained much leſs of the pain in the head than before the bleeding. I would have cupped and ſcarified the nape of the neck, but was prevented : It was with difficulty I bliſtered the head, nape of the neck, temples and forehead.

THE 30th, ſhe ſeemed rather better, took hauſtus ſalinus, received a glyſter, and had two diſcharges from the bowels ; but ſhe lay ſenſeleſs 31ſt : With difficulty took either nouriſhment or medicine. The eyes not ſenſible of the light, and the pupils dilated. The pulſe increaſed in velocity ; was weaker, and more regular.

DR. Danforth ſaw her with me this day ; and although we had never ſeen any medicine ſo efficacious as to afford any permanent relief, in the ſecond ſtage, nevertheleſs, as two very eminent phyſicians in England had recommended mercury ſo as to affect the ſyſtem in general, we agreed to give her mercurius dulcis, one gr. every two hours, and

to

to rub into the thighs twenty four grs. ung. merc. fort. every night and morning, till the breath and gums ſhould be affected with this medicine, interpoſing glyſters to keep the primæ viæ lax. I had tried this method in two caſes before, but never perceived any advantage; I rather ſuppoſed it accelerated the fatal cataſtrophe.

I HAVE before given my opinion upon the uſe of this mineral in hydrocephalus internus; but as Celſus ſays, "ſatius eſt enim anceps remedium experiri quam nullum," we perſiſted in its uſe till the 3d of February, when the glands of the mouth were inflamed, the gums turgid, and the ſaliva drivelled and wet the pillow on which ſhe lay. She had taken thirty two grains of calomel; but I diſcovered they had rubbed into the legs and thighs but forty eight grains of the ointment, one third mercury. She diſcharged a large number of aſcarides with the fæces, which were now very green and fœtid. Notwithſtanding the mercury had evidently affected the ſyſtem, every fatal ſymptom increaſed, till death cloſed the ſcene early on the morning of the 11th of February.

THE 12th, the head was inſpected by Dr. William Jackſon, in preſence of a young medical gentleman and myſelf. I ſhall give the relation in the Doctor's words, as his deſcription agreed with mine. "Upon removing a ſufficient portion of

the bones of the cranium, the brain appeared unuſually diſtended; the dura mater was of a darker colour than natural. Upon opening the longitudinal ſinus, its internal ſurface appeared in an inflamed ſtate. The pia mater was in a ſtate of high inflammation; the blood veſſels diſperſed in it were double their natural diameters, and ſurcharged with blood. The falciform and tranſverſe proceſſes were alſo much inflamed. The corpus calloſum was of a greyiſh colour, and its ſubſtance firmer than uſual. In the lateral ventricles there were three ounces of a fluid lightly tinged with blood, which did not coagulate in the heat of boiling water; only a ſmall pellicle was formed on its ſurface. The plexus choroides was of a deep crimſon color, much enlarged, and overloaded with blood. The inveſting membrane of the cerebellum was in the ſame ſtate of inflammation with that of the cerebrum." To me the plexus choroides appeared a congeries of innumerable blood veſſels, very much diſtended with blood; and in ſome parts of it nothing but an aſſemblage of ſanguineous veſſels totally obliterating the membrane. No comment is neceſſary upon this appearance of inflammation, as I have in the paper upon the hydrocephalus internus, given my ideas of its cauſe, &c.*

ARTICLE

* Dr. Danforth would have been preſent, but a neceſſary avocation prevented.

ARTICLE VIII.

An Account of a preternatural OBSTRUCTION *in the* VAGINA. *Communicated by Dr.* JOSEPH OSGOOD, *Fellow of the Maſſachuſetts Medical Society, and Phyſician at Andover, in the County of Eſſex.*

ANDOVER, MAY, 1786.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

I TAKE the liberty of tranſmitting to you, a caſe which happened nine years ſince.

A. B. being twenty eight years old, became pregnant, and during the time of geſtation had no uncommon complaints; at the expiration of nine months, labor came on, the pains were ſevere, and after continuing forty eight hours, by examination there appeared a membrane at the entrance of the vagina, which extended to the urethra, and when preſſed downward by the pains, was three inches in diameter, and impeded the diſcharge of urine, and occaſioned the neceſſity of the catheter. As this membrane appeared manifeſtly different from the common membranes, and of an unnatural growth, I made particular inquiry, and was informed, that the

the parts had been accidentally injured when at the age of eleven years. Having acquired this information, and the difficulty being of a ſingular nature, I called upon Dr. Brickett, of Haverhill, to viſit her with me, and from examination he was convinced that the delivery was prevented by this preternatural membrane: Accordingly we divided it, beginning the inciſion near the perinæum, and extending it to the urethra. The diviſion of the membrane was not attended with any hæmorrhage, though of conſiderable thickneſs in the centre, but thinner towards the circumference. The pains continuing after the diviſion of the membrane, ſhe was in a little time delivered of twins, who lived but a ſhort time. After delivery was completed, ſoft and eaſy dreſſings were applied, carefully preventing the membrane from uniting, and in a ſhort time ſhe was entirely well; and has ſince had four children, without any difficulty.

ARTICLE

ARTICLE IX.

Curious Facts reſpecting WORMS. *Communicated by* THOMAS WELSH, *A. M. Fellow of the Maſſachuſetts Medical Society, and Phyſician at Boſton.*

BOSTON, APRIL, 1789.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

I NOW tranſmit you certain facts reſpecting worms, which have occurred to my obſervation.

IN the month of October, 1775, I was called to H. C. a lad of about twelve years of age, who had previouſly enjoyed good health; but his appetite was now impaired: He was coſtive; his pulſe were quick, and irregular, attended with uncertain returns of fever, and his ſkin was dry: His eyes were conſtantly open; the pupils dilated, with ſtrabiſmus, and he was *entirely blind*.

THIS laſt fact I aſcertained, by ſeveral experiments. I placed various objects in ſucceſſion before his eyes, and inquired of him, whether he could ſee either of them? to which he anſwered in the negative. I held a dollar up, and told him he

ſhould

ſhould have it, if he could diſcover it; but he felt for it without ſucceſs. I darkened the room, and had a lighted candle introduced, which he knew nothing of: I held it near his eyes; this produced no contraction of the pupils, and he declared that he ſaw nothing. I then took one of his hands, and told him I would lay it upon ſomething, which he allowed me to do; I put it into the blaze of the candle; he inſtantly twitched it from my hand and the candle, crying out that he was burnt.

EVERY time I approached the houſe to viſit him, I heard him at a diſtance exclaiming, in the accents of extreme diſtreſs—"*Oh, mother! Oh, my head!*" This he reiterated frequently, during my viſits; and ſhe told me it had been the caſe for two or three days before I ſaw him, with very little intermiſſion.

I USED various means to procure a diſcharge from his bowels, and perſiſted in them for near three days; but notwithſtanding I effected a plentiful evacuation, no abatement of the tormenting pains of his head, or of the other complaints, was obtained. At length I gave him an emetic, of tart. emet. and attended the operation, which was effected in the uſual time; and upon the firſt attempt to puke, he brought a large worm out of his ſtomach; Inſtantly his ſight returned, as perfectly as he had ever enjoyed it; his headach vaniſhed, and every other ſymptom of diſeaſe immediately diſappeared.

IT

IT is well known that worms often exiſt in the human body; and that they remain, for a length of time, harmleſs inhabitants: But is it not probable, that many of the diſeaſes, which we find difficult to account for, owe their cauſes to worms? And is it not to be apprehended, that phyſicians have taken that to be the *hydrocephalus internus*, which was in fact to be aſcribed to *worms?* eſpecially as calomel, a well known vermifuge, has had the credit of curing that diſeaſe.

AND does not the hiſtory of the preceding caſe further confirm the doctrine (which ſeems, however, to be well eſtabliſhed) of the intimate connexion which ſubſiſts between the ſtomach, the firſt great organ of digeſtion, and the common ſenſory?

UPON opening the thorax of a healthy, full grown cat, I found the lungs in a ſound ſtate: And on examining the contents of the cheſt, I perceived (before any inciſion had been made into the lungs) a live worm, crawling between the convex ſurface of the lungs and the pleura. This membrane was likewiſe entire and healthy: The worm meaſured near nine inches. I then examined the ſurface of the lungs and pleura more accurately, but could not diſcover any aperture by which it could have inſinuated.

I HAVE often reflected upon this curious appearance of a worm in ſo ſingular a ſituation; and cannot account for it in any other way, than by ſuppoſing that the egg was drawn into the bronchial veſſels by the act of inſpiration, and tranſmitted to the extremity of one of them, near the ſurface of the lungs, and, gradually enlarging, at length burſt into the cavity of the cheſt, where it found ſufficient pabulum for its nouriſhment and increaſe.

ARTICLE X.

A Caſe of a CALCULUS *in the* URETER, *together with another of the ſudden Growth of the* STONE, *conſequent upon the Introduction of a foreign Body into the* BLADDER. *Communicated by the Hon.* WILLIAM BAYLIES, *A. M. A. A. S. Fellow of the Maſſachuſetts Medical Society, and Phyſician at Dighton.*

DIGHTON, JUNE, 1787.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

CAPTAIN A. of N. on a total ſuppreſſion of urine, ſent for me to uſe the catheter. Upon examining his abdomen, I found it ſoft, and not at all diſtended;

diſtended; and told him there was no need of having recourſe to the inſtrument, as I was confident his bladder was deſtitute of water. He was in extreme pain, which could be traced from the right kidney along the ureter, until it entered the coats of the bladder. This plainly pointed out, that a calculus impeded the flow of urine through that ureter; but as he did not complain of his left ſide, it was ſtill a queſtion, what prevented his bladder being filled with urine from his left kidney? As many phyſicians had advanced, that an irritation of one kindney would often produce ſuch a convulſive conſtriction in the other as to render it unable to ſeparate any urine, I knew not but an opportunity now preſented of confirming what I had hitherto doubted. I therefore requeſted his friends, that, in caſe of death, they would permit his body to be opened: His death happened in a few days, and his friends conſented. His bladder was in a very collapſed ſtate, and not containing a drop of water; a calculus, about as big as an hazle nut, was wedged into the right ureter at its termination, one third of it being projected into the cavity of the bladder, and the other part being ſo cloſely embraced that it required conſiderable force to diſengage it. This ureter, between the bladder and kidney, was dilated ſufficient to admit one's little finger. The kidney to which it belonged, was alſo greatly enlarged. Upon preſſing it, the bladder was immediately filled

with

with urine. Its pelvis contained thirteen ſmall calculi of different ſizes. The left kidney was very large, and its ſurface covered with hydatids of a yellowiſh color. A foul, urinous, purulent fluid was lodged in the pelvis. I could not find the ureter, though I thought the ſhrivelled remains of it were diſcernible; neither could I diſcover this kidney to have any connexion with the kidney or ureter on the right ſide. This perſon had, for eighteen months or two years, labored under a compound *fiſtula in ano*, and, long before that, been ſubject to difficulties in the urinary parts. Is it not probable, the urine might eſcape through the diſeaſed kidney or ureter into the cavity of the abdomen, and make a lodgement about the lower part of the rectum, which finally occaſioned the fiſtula, though warded off for a while by the power of abſorption. A diſcharge of urine by the anus, after the appearance of the fiſtula, whenever he attempted a ſtool, rather confirms it. Had I been more converſant in diſſections, this might perhaps have been clearly determined.

CASE II.

MR. ———, more than fifty years of age, by accident, had two or three inches of the ſmooth ſtalk of a plant broken off in his bladder. In a month, he complained of thoſe pains and difficulties commonly attendant on the ſtone; in five months he was obliged to ſubmit to the operation, when there

was

was taken from him a ſtone which weighed nine drams. The ſtalk formed the baſis, round which the concreſcible matter cohered with conſiderable force. The parts of the ſtone, contiguous to the ſtalk, were very hard; the other parts brittle and ſandy.

ARTICLE XI.

An EXPERIMENT *for determining the Expediency of the* SIGAULTIAN OPERATION. *Communicated by the late* JOSEPH ORNE, *A. M. A. A. S. Fellow of the Maſſachuſetts Medical Society, and Phyſician at Salem.*

SALEM, OCTOBER, 1783.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

THE utility of the operation of dividing the ſymphyſis pubis in a certain ſpecies of difficult labors, being ſtill a ſubject of queſtion, I conceived that every opportunity of determining it by experiment, might be worthy of attention, eſpecially as this operation if brought to the perfection of which ſome have ſuppoſed it ſuſceptible, may be a comparatively gentle ſubſtitute to a terrible proceſs, that could be ſuggeſted only by the proſpect of immediate

diate death, and never practiſed but in circumſtances bordering on abſolute deſpair.

FORTUNATELY for the moſt delicate part of our ſpecies, the neceſſity of practiſing it on the living ſubject, very rarely occurs; making the experiment on any dead ſubject, excepting ſuch as were recently delivered, or in the laſt ſtages of pregnancy, can do but little to determine the point; and we very rarely I ſuppoſe have an opportunity of diſſecting ſubjects of this deſcription: In this view of the matter the following hiſtory is communicated.

A WOMAN, aged about twenty five, at the end of the 8th month of her ſecond pregnancy, was ſuddenly ſeized with convulſions, which in about forty eight or ſixty hours, put an end to her life. Juſt before ſhe died, there were ſymptoms of labor, and on examination, the os internum was found conſiderably dilated, the membranes protruded, and the feet preſenting. The gentleman who attended her during her illneſs, having a curioſity to inſpect the condition of the gravid uterus, and perhaps ſuſpecting that ſome local cauſe of the diſeaſe might poſſibly be diſcovered, obtained leave to open the body. Dr. Holyoke, with myſelf, attended him on this occaſion. On laying open the abdomen, and making as large a wound as was neceſſary in the uterus, nothing preternatural was diſcovered, excepting the poſture of the fætus juſt mentioned; the parts were therefore preſently cloſed, and as the opportunity

of

of a few moments preſented, it was propoſed to cut the ſymphyſis pubis, as the patient died nearly at that time, when we ſuppoſe the oſſa pubis, if divided, will admit the greateſt ſeparation from each other. I accordingly performed the operation with a biſtoury, and without any difficulty, as the thighs were previouſly ſeparated to ſome diſtance from each other, and conſequently the connecting ligaments of the ſymphyſis in a ſtate of violence. The inſtant the diviſion was effected, the parts flew aſunder nearly two inches, with the violence of a bow ſuddenly cut in two, when very forcibly bent. By ſeparating the thighs ſtill further, the ends of the bones were made to recede at leaſt 2 $\frac{3}{4}$ inches; and I think, if neceſſary, another $\frac{1}{4}$ inch might have been obtained, which I preſume would have been quite ſufficient to remove any ſuch difficulty as might make this operation on a living ſubject eligible. A ſmall veſſel was divided, which might have demanded a ligature; this however could have been eaſily uſed. On bringing the knees together, the ends of the bones were again brought into perfect contact. The caution inculcated by Mr. Sigault, not to ſeparate the thighs too far, previous to the operation, ſeems very neceſſary, as from the ſudden ſeparation of the bones while the knife is preſſed down, in the act of dividing it, might forcibly ſlip through, and do miſchief in the vagina.

ARTICLE

ARTICLE XII.

An Account of an ANEURISM *in the* THIGH, *perfectly cured by* the Operation, *and the Uſe of the Limb preſerved. Communicated by* THOMAS KAST, *A. M. Fellow of the Maſſachuſetts Medical Society, and Phyſician at Boſton.*

BOSTON, FEBRUARY, 1790.

To the MASSACHUSETTS MEDICAL SOCIETY.

GENTLEMEN,

ON the 25th of May, 1786, I was called upon to viſit I. T. a lad aged ſixteen years, who, while he was cutting with a ſhoemaker's ſharp pointed knife a piece of leather which he held on his thigh, the knife ſuddenly cut through it, plunged into his thigh, and wounded the artery. I found him fainting under the loſs of blood, there being at leaſt two pounds diſcharged upon the floor. Upon taking off his clothes, and the preſſure of a man's hand, which was fortunately made upon the wound from its being firſt inflicted, I diſcovered a wound about one inch in length, on the inſide of the thigh, ſeven inches below the groin, out of which the blood was then diſcharging *per ſaltum*. I immediately placed him in a horizontal poſition, ſtretched out the limb, dreſſed up the wound with flour

and

and lint, and applied a tight bandage, which ſtopped the hæmorrhage. He was then carefully put to bed, kept very ſtill, and put on a low diet. Soon after it was dreſſed, he complained of the tightneſs of the bandage, which was looſened a little the next day.

THREE days after, the thigh began to ſwell, attended with great pain. On the 29th, a pulſation being now plainly to be both ſeen and felt through the dreſſings, I concluded it was an aneuriſm, and requeſted a conſultation; and in one held upon the caſe, it was determined that the operation for the aneuriſm was neceſſary, which was performed in the following manner:

AFTER having ſecured the crural artery above by the tourniquet, I made an inciſion upon the tumor, about eight inches in length, down to the artery: Upon removing the coagulated blood, and ſlackening the tourniquet, the blood immediately guſhed out, and diſcovered the wound in the crural artery. The tourniquet being inſtantly made tight, I paſſed a ligature above, and another below the orifice of the wound in the artery, and ſecured them. Then looſening the tourniquet, and ſeeing no hæmorrhage, I dreſſed up the wound in the uſual manner, placed him in bed, with the limb upon a pillow, in a relaxed poſition, and gave him an anodyne.

UPON examining the artery at the ankle, immediately after the operation, with very close attention, a very small pulsation could be felt, which afterwards gradually increased.

SOON after the operation, he complained of great coldness and numbness in the leg and foot, which were removed in eight or ten days, by the repeated application of warm spirituous embrocations, frictions, and covering the limb with soft flannel.

NOT the least hæmorrhage appeared from the artery after the operation: The wound digested well; the ligatures were taken away in due time, and the whole was completely healed up in ten weeks, without any material occurrence.

I HAVE the satisfaction of seeing him enjoy the free use of the limb, and able to take any exercise.

APPENDIX.

EXTRACTS *from an* ESSAY *on the* UTERINE HÆMORRHAGE, *which precedes the* DELIVERY *of the* FULL GROWN FŒTUS. *Illuſtrated with* CASES. *By* EDWARD RIGBY, *Member of the Corporation of Surgeons in London.*

NO circumſtance that attends parturition, expoſes women to ſo much danger, as profuſe hæmorrhages from the uterus, towards the latter end of pregnancy, and in the time of labor; the art of midwifery is likewiſe, in no inſtance, more at a loſs in the uſe of means for the relief of the patient; an inquiry into the cauſes of them, and an attempt to improve the practice in ſuch caſes, cannot, therefore, be uſeleſs.

THE treatment of floodings, that come on before the uterus has acquired any conſiderable ſize, muſt be very obvious, and the conſequences of them, at that early period of pregnancy, are ſeldom to be dreaded, as, if the patient loſe blood from the arm, be kept cool, and in an horizontal poſture, and ſuch mild, aſtringent, and anodyne medicines be adminiſtered to her, as have been found, by experience, to reſtrain diſcharges of blood, they will very frequently ſtop entirely, and the woman go on to her full time; and if this ſhould not be the caſe, but the hæmorrhage ſhould ſtill increaſe, it will ſel-

dom increaſe to a degree that will endanger the life of the mother, without the ſmall fœtus and ſecundines being ſeparated, and thrown off by it, after which the uterus will ſoon contract, and thereby cloſing the mouths of the bleeding veſſels, the diſcharge will gradually diminiſh, until it be entirely ſtopped.

BUT floodings that precede the delivery of the full grown fœtus, when the uterus is arrived at is greateſt ſtretch, and the veſſels have acquired their utmoſt magnitude, muſt be ever highly dangerous, being more profuſe, and more difficult to ſuppreſs, in proportion to the increaſed ſize of the veſſels; inſomuch, that the number of inſtances in which they have unhappily proved fatal, is very conſiderable.

TO remove the uncertainty and embarraſſment, which have hitherto attended the practice in theſe caſes, and determine on more fixed and rational principles, when it is ſafe to wait for nature's endeavors to expel the child, and when it is abſolutely neceſſary to bring it away by art, would, therefore, certainly be an important improvement in midwifery.

THE ſeparation of the placenta from the uterus, before the delivery of the child, and the conſequent opening of its veſſels, muſt be looked upon as the proximate cauſe of every conſiderable diſcharge of blood from the womb at that time: But this premature ſeparation of it, may be produced by very different cauſes, and it is a knowledge of this difference that will, in my opinion, remove the difficulty of aſcertaining the reaſon, why the ſame apparent complaint ſhould, very often, ſo widely differ in its termination, and at the ſame time remove alſo the uncertainty of treating it.

THERE is no particular part of the uterus, to which nature ſeems conſtantly and uniformly to fix the placenta, it is, nevertheleſs, for the moſt part, ſo ſituated, that if the woman be healthy, and no accident befal her, it does not ſeparate until the full term of pregnancy, nor then before the entire expulſion of the child, after which it becomes diſengaged from the uterus, and is thrown off, making room for its entire contraction, which ſhutting up the mouths of the veſſels, effectually prevents any conſiderable loſs of blood; for which purpoſe, it is plain, it muſt be fixed to ſome part of the womb, which does not dilate during labor, namely, to the fundus or ſides of it.

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IN this caſe, then, when a flooding comes on before the delivery of the child, it is obvious, that the ſeparation of the placenta muſt be owing to ſome *accidental* circumſtance, to violence done to the uterus by blows or falls, to ſome peculiar laxity of the uterine veſſels from badneſs of habit or fever, or to the influence of the paſſions of the mind ſuddenly excited, ſuch as fear, anger, &c.

BUT from the uncertainty, with which (as before obſerved) nature fixes the placenta to the uterus, it may happen to be ſo ſituated, that when the full term of pregnancy is arrived, and labor begins, a flooding *neceſſarily* accompanies it, and without the intervention of any of the above *accidental* circumſtances; that is, when it is fixed to that part of the womb which always dilates as labor advances, namely, the collum and os uteri, in which caſe, it is very certain that the placenta cannot, as before deſcribed, remain ſecure until the expulſion of the child, but muſt, of neceſſity, be ſeparated from it, in proportion as the uterus opens, and, by that means, an hæmorrhage muſt *unavoidably* be produced.

THAT floodings, which ariſe from theſe two different cauſes, which I will diſtinguiſh by the names of *accidental* and *unavoidable*, though they may appear exactly ſimilar in their firſt ſymptoms, ſhould terminate very differently, if left to nature, aſſiſted only by the palliating means, cannot ſeem ſtrange; nor can it be a doubt that of theſe two kinds of floodings, only one of them, namely, that which is produced by an *accidental* ſeparation of the placenta, can be relieved by the uſe of theſe palliatives; and that the other, in which the placenta is fixed to the os uteri, and the flooding is therefore *unavoidable*, cannot poſſibly be ſuppreſſed by any other method whatever, than the timely removal of the contents of the womb.

THAT this attachment of the placenta to the os uteri, is much oftener a cauſe of floodings than authors and practitioners are aware of, I am from experience fully ſatisfied; and ſo far am I convinced of its frequent occurrence, that I am ready to believe that moſt, if not all, of thoſe caſes which require turning the child, are produced by this unfortunate original ſituation of it; and, moreover, (which is perhaps of as much practical importance to know) when the placenta is not ſo ſituated, the events of the annexed caſes authorize me to ſay, that if the patient be properly managed, nature will, for the

moſt

moſt part, terminate the labor ſafely, without any manual aſſiſtance of the ſurgeon.

IT may appear extraordinary, that a circumſtance, attended with ſo much danger, and which ſeems to be ſo frequent a cauſe of the uterine hæmorrhage ſhould have hitherto been ſo little noticed, for though, in the caſes which have been mentioned by authors, the placenta was found at the os uteri, yet it was, in very few of them, ſuppoſed to have been *originally* fixed there; and I make no doubt but it has often happened when it has not been known at all to the ſurgeon, as I am induced to believe that in the greateſt number of thoſe inſtances, in which the women have died undelivered, the floodings have been produced by this attachment of it.

ADMITTING, then, that floodings are produced by theſe two different cauſes, and that they require a treatment ſo widely different, we cannot be at a loſs when ſuch occur to us, and we have diſcovered the particular cauſe from which they ariſe, how to act; as, in the one caſe, we ſhall be encouraged to wait, and make uſe of ſuch means to reſtrain the diſcharge, as will be more particularly mentioned hereafter, and in the other, we ſhall not heſitate to have recourſe to delivery by art.

THE ſucceſs of turning depending entirely upon its being done before the patient has loſt too much blood, it is a matter of the utmoſt importance to obtain an early knowledge of the neceſſity there is of doing it, or in other words, to know at the beginning of the diſcharge, whether it be produced by the placenta being ſituated on the os uteri or not.

THERE is, perhaps, ſome difference to be obſerved in the time and manner that floodings, produced by theſe different cauſes, come on; probably, that which is occaſioned by the placenta being fixed to the os uteri, will, for the moſt part, not come on till the full term of parturition, when the uterus begins to dilate from the approach of labor; the other, which is owing to ſome accidental ſeparation of the placenta, may, on the other hand, come on before labor begins, and indeed at any time during pregnancy. The only certain knowledge reſpecting the ſituation of the placenta, is to be derived from an examination of the uterus by the touch.

FOR

FOR this purpoſe, however, the uſual method with one finger will not always ſuffice, but the hand muſt be introduced into the vagina, and one finger inſinuated into the uterus. If the placenta be at the mouth of the uterus, it will be immediately felt by the finger, and may be diſtinguiſhed from the membranes, by its greater thickneſs, and from coagula of blood, by the irregularity and roughneſs of its interior ſurface, which will then preſent to the finger.

SUPPOSING, then, that the placenta ſhould, from this inquiry, be found at the mouth of the womb, the ſurgeon will be at once convinced of the danger that muſt unavoidably attend delay, from the impoſſibility there will be of affording the woman relief by any other means than the timely removal of the child, and will, on that account, not heſitate to deliver before too great a loſs has been ſuſtained.

IN recommending early delivery, I think it right, however, to expreſs a caution againſt the premature introduction of the hand, and the too forcible dilation of the os uteri, before it is ſufficiently relaxed by pain or diſcharge; for it is, undoubtedly, very certain, that the turning may be performed too ſoon as well as too late, and that the conſequences of the one may be as deſtructive to the patient as the other. I am particularly led to obſerve this, as I have lately been informed, from very good authority, (namely, a gentleman to whom one of the caſes occurred) of three unhappy inſtances of an error of this ſort, which happened, ſome years ago, to three ſurgeons of eſtabliſhed reputation, who, from the ſucceſs they had met with in delivering ſeveral who were reduced to the laſt extremity, were encouraged to attempt it where but very little blood had been loſt, in hopes that their patient's conſtitutions would ſuffer leſs injury, and their recovery be more ſpeedy; which, till the experiment was made, was a very reaſonable ſuppoſition; the women died, and they ſeemed convinced that their deaths were owing to the violence of being delivered too ſoon, and not to the loſs of blood, or any other cauſe.

IT becomes, then, neceſſary to endeavor to aſcertain, with a degree of accuracy, the preciſe time when we may proceed to deliver, without fear of incurring the ill effects either of precipitancy or delay.

TO

TO ſteer ſafely between the two dangerous extremes, it appears neceſſary that, on the one hand, we ſhould never deliver till the dilatation of the womb can be effected by eaſy means, and, on the other hand, when it has been ſufficiently relaxed by diſcharge, if the woman have ſuffered much by it, that we ſhould no longer defer it, notwithſtanding, from the abſence or inefficacy of pain, the os uteri ſhould remain unopened: Yet, after all, as turning ſeems to be only neceſſary when the placenta is fixed to the mouth of the womb, and that circumſtance can ſeldom be known till the hand be introduced into the vagina, and one finger be inſinuated into the uterus, I ſhould imagine it not very likely that we ſhould often be in danger of injuring the patient by premature delivery, as when the hand paſſes eaſily into the vagina, I ſhould ſuppoſe there will be ſeldom much difficulty in its admiſſion into the uterus.

IN introducing the hand for the purpoſe of turning, when the os uteri has been carefully dilated, if the ſeparated part of the placenta be immediately preſenting, it is beſt to endeavor to paſs the finger through the ſubſtance of it, and by degrees with other fingers to enlarge the opening, till the hand can get through it into the cavity of the uterus: The obvious reaſon for this is, that by this means not more of the placenta may be ſeparated, than is neceſſary for the introduction of the hand, and conſequently that as little increaſe of bleeding as poſſible may be produced by the operation; but if it be impracticable, as I have more than once found it, and it muſt ever be when the middle of the placenta preſents to the hand, from the thickneſs of it near the funis, it muſt be carefully ſeparated from the uterus on one ſide, and the hand paſſed till it gets to the membranes, which being eaſily broken, it is admitted into the bag, the floating fœtus is turned, and the delivery finiſhed, as in preternatural poſitions of the child; except, that in this caſe the extraction ſhould be more ſlow, that the uterus may not be unable to contract, by being too ſuddenly emptied: A moderate preſſure from the hand of an aſſiſtant, upon the abdomen, as the child is coming away, will likewiſe be of uſe to aſſiſt the contraction. The placenta being at the os uteri, and being uſually ſeparated more by the introduction of the hand, commonly comes away immediately, but if a part of it ſhould remain adhering, and the diſcharge continue, it ſhould be carefully removed, and as it is ſo near, it may very eaſily be done.

IF,

IF, on the contrary, it be clear from this careful examination of the uterus, that the placenta is not at the mouth of it, and that the coming on, or increaſe of labor, will not of neceſſity increaſe the diſcharge, provided it be not very profuſe, (for let it be remembered, that I am ſuppoſing the examination to be made early, and before any conſiderable quantity of blood has been loſt) it certainly will be proper to wait for the natural pains, and, in the mean time, to uſe ſuch methods as are likely to reſtrain the flooding, which are, the admitting a free circulation of cool air into the room, keeping the patient in an horizontal poſture, giving her anodyne, with tinctur. roſar. &c. and ſupplying her frequently with ſuch cool and ſimple nutritious drinks as will ſupport her without quickening the circulation; from purſuing this method, it will often happen, that the diſcharge goes off entirely, and if the woman be not arrived at her full term, and ſhe be kept very ſtill and calm, that it does not return before labor comes on. But if it ſhould ſtill continue, or return frequently, it will be right, if poſſible, to bring the uterus into a ſtate of contraction, by exciting ſome pain, which may often be done by gently irritating the os uteri with the finger; if this ſucceed, and the mouth of the uterus be thereby ſo far dilated, that the diſtended membranes may be felt, they muſt be immediately pierced by paſſing a probe along the finger, as upon the diſcharge of water thus produced, the womb neceſſarily contracts to a certain degree, and the flooding proportionably abates; this is, for the moſt part, ſoon ſucceeded by ſlight pains, which if the child preſent fair, have very ſoon an effect upon it, and puſh it down.

BUT if, notwithſtanding, this mode of treatment, the diſcharge ſhould not leſſen, if the evacuating the waters ſhould not abate it, and if, moreover, labor pains, ſufficient for expelling the child, ſhould not ſucceed, and the flooding ſhould ſtill increaſe, ſo as to endanger the life of the patient, I ſhould imagine it hardly neceſſary to ſay, that even in this caſe, as well as when the placenta is fixed to the os uteri, the only certain method of ſtopping it ſhould be uſed, namely, the delivery of the child by turning; for though I have never yet met with a caſe that under ſuch circumſtances has required it, and believe ſuch very rarely happens, yet I would not be ſuppoſed to ſay ſuch an one cannot occur, as the ſeparation of the placenta may, for inſtance, be produced by ſuch violence done to the abdomen,

abdomen, and the hæmorrhage may be ſo profuſe, that nothing but a ſpeedy delivery by art will put a ſtop to it.

TO many practitioners, the introduction of the hand to turn the child, is a very diſagreeable operation, and if they have not been much uſed to it in caſes where the uterus is but little open, it appears a very difficult and formidable one: It were to be wiſhed, that even this circumſtance had never an improper influence upon ſurgeons, eſpecially thoſe who are young in practice, and that they were never induced to omit, or too long delay this operation, becauſe they feel unwilling to do it.

BUT it is not ſo difficult as many imagine, for even in preternatural caſes, where the uterus is ſtrong and rigid, and gives way reluctantly, if the hand be ſlowly and gradually introduced, it will ſeldom be found impracticable, provided the pelvis be not badly formed; and in floodings it is effected with peculiar eaſe, which ſhould be a further encouragement to attempt it in ſuch caſes; for as the uterus neceſſarily becomes ſo relaxed after a conſiderable loſs of blood, it very readily gives way to the admiſſion of the hand, that tight contraction of its neck, which in other caſes is ſuch an impediment to the introduction of it, being here ſeldom to be met with; and it may be added, that in proportion as nature, from the loſs ſhe has ſuſtained, is leſs able to bear violence, happily, a proportionable leſs force is requiſite.

THUS, I have ventured to place one of the moſt important ſubjects in midwifery in a new light, and have endeavored to eſtabliſh a hitherto uncertain practice upon principles that are more fixed and conſtant, by aſcertaining when we may, with propriety, leave nature to do her own work, and when it will be requiſite to proceed to immediate delivery, by turning the fœtus: I have alſo endeavored to fix the preciſe time, when it may, with moſt ſafety, be done; and, in order to promote the practice of turning, when ſuch becomes neceſſary for the woman's ſafety, have attempted to obviate the objections which have been made to this operation, from a ſuppoſition of its being either difficult, dangerous, or uſeleſs. And, from what has been ſaid, it appears, that the placenta is fixed to the os uteri much more frequently than has hitherto been ſuppoſed; that when it is ſo ſituated, nothing but turning the child will put a ſtop to the flooding;

ing; that when it is not ſo ſituated, nature will, for the moſt part, expel it ſafely herſelf; that an early knowledge of this circumſtance is of the utmoſt importance; that it may be obtained with eaſe and ſafety; and that therefore it ſhould, in every caſe, be inquired into before much blood has been loſt; that the information, procured by making ſuch an inquiry, ſhould govern our management of the caſe; if we find the placenta at the mouth of the womb, that we ſhould proceed to delivery; that, if it be not ſo ſituated, if the diſcharge be not very profuſe, and a very large quantity of blood have not been already loſt, we ſhould endeavor to reſtrain it by the means commonly directed for that purpoſe, and wait for nature's aſſiſtance in the expulſion of the child: And it is thence evident, that this practice will have an advantage over the uncertain one hitherto adopted, becauſe our determination about what we do, will ever be more ſafe and ſatisfactory; for if, on the one hand, we wait, we ſhall have the ſatisfaction of knowing that, in all probability, nature will be able to expel the fœtus; and if, on the other hand, we immediately turn the child, we ſhall, alſo, have the ſatisfaction of knowing that nothing but turning can relieve the woman, and that, therefore, we do not give her unneceſſary pain: And finally, that our doing it before the patient has ſuſtained too great a loſs of blood, will make the chance of ſucceſs more probable, and thereby be the means of preventing, in ſome meaſure, the fatality which has hitherto ſo frequently attended theſe caſes, and which has, perhaps, been more owing to a rational method of treatment not being known, than is commonly imagined.

CASE I.

DECEMBER 29, 1769, I was ſent for, in the afternoon, to the wife of ——— *Balls*. She was at the latter end of the eighth month of pregnancy, and had been ſeized the preceding evening, with a diſcharge of blood from the uterus; it began without pain, and in ſmall quantity, but increaſed by degrees, and was conſiderable when I ſaw her; ſhe had now, however, ſmall pains, by which the os uteri was already ſomewhat dilated. I admitted as much cold air as I could into the room, ſupplied her frequently with cool and nouriſhing drinks, and as the pains ſtill continued, waited until the membranes were ſo far diſtended and puſhed down, that I could ſcratch them

them with my nail, by which means I broke them, and let the water eſcape; the diſcharge immediately leſſened, the pains increaſed, and, in a little while, I felt one foot of the fœtus preſenting; I brought it down, and with great eaſe, drew forth a ſmall dead child. The placenta came away in about a quarter of an hour, the flooding became leſs and leſs, and the poor woman, though much reduced by the loſs ſhe had ſuſtained, recovered in the uſual time.

CASE II.

FEBRUARY 6, 1770, —— *Stannard.* She was a ſmall delicate woman, of a ſickly relaxed habit, and had born ſeveral children. About the end of the eighth month, a flooding came on, without any previous pain, or ſymptoms of labor. I ſaw her in the evening, after the diſcharge had been ſeveral hours, though as yet it had not been very profuſe; ſhe was, however, very faint and languid: By keeping her upon the bed with but few clothes upon it, and admitting cool air into the room, it evidently leſſened: I found the os tincæ relaxed, and a little opened; after examining ſeveral times, (and, probably by the ſlight irritation, occaſioned by the frequent touch) it opened ſomewhat more, and the membranes protruded ſo far, as to be felt by my finger: I immediately broke them, the diſcharge abated ſtill more, and ſome ſlight pains ſucceeding, ſhe was, in about half an hour after the breaking of them, delivered, with remarkable eaſe, of a ſmall living child; the placenta was removed without trouble, the diſcharge was moderate, ſtopped at is proper time, and the woman perfectly recovered.

CASE IV.

IN the evening of Auguſt 12, 1772, I was ſent for to the wife of —— *Leman*, a pauper, belonging to the town; ſhe had a midwife with her, who informed me her patient had been flooding in ſome degree during the day, and that it had, in the laſt hour, very much increaſed. I examined, found the diſcharge conſiderable, the uterus was ſcarce at all open, and ſhe was without pain; ſhe was, moreover, extremely faint, and ſeemed to have ſuffered much more than any of the former patients: Admitting cool air into the room, &c. as in the other caſes, for a while abated the diſcharge; but as it returned very ſoon, and the woman ſeemed in the moſt immediate danger,

danger, I was very desirous of attempting to relieve her by turning the child; but judging it right to have the opinion of another surgeon, I sent for one who has had considerable practice in this city. He seemed to think my patient too far gone to receive relief from any attempt whatever to stop the flooding; and as he added, that it was his opinion, she would sink during the operation, as one or two had before done on whom he had made the like attempt, he advised me not to turn the child. His advice prevented my doing it immediately, though before his arrival it was my design to attempt it, if he justified it: I was determined, however, not to leave the bed side, that if there came on the least degree of pain, so as to allow me to feel the membranes, I might, as I had before done, pierce them with a probe, or if the flooding increased, and I found it practicable to introduce my hand, I still resolved to attempt the removal of the child.

BY carefully attending to keep the room very cool, by preventing my patient from being the least stirred, and being myself her nurse, in giving here very few minutes small quantities of the coolest drinks, I prevented the discharge from increasing, and at the same time supplied, as far as I could, the waste of what she did lose, by the drinks she took, being as nutritious as I could venture to give them, without their being irritating: After attending her in this manner about two hours, frequently examining and gently stimulating the os internum, there came on at length a slight pain, and soon after, I could just feel the membranes with the end of my finger; I immediately introduced a probe, in the manner I had before done, and broke them; it had the same good effect as before, for the discharge immediately stopped, and pain coming on, the uterus opened, the head of the child was pushed down, and, notwithstanding the very alarming state she had, but just before been in, she was soon easily, and safely delivered, by the natural pains, of a dead child.

CASE VI.

DECEMBER 1, 1772, about midnight, I was sent for to ——— *Wekden*, another pauper. She had a midwife with her, who informed me, the woman had been flooding a considerable time, and had lost a large quantity of blood, which seemed to be true, from the

state

ſtate the poor creature was in ; for her faintneſs was extreme, and ſhe had every ſymptom of the moſt immediate danger.

UPON examination, I found the os uteri more dilated than in any of the former caſes, and the placenta evidently preſenting : As no poſſible relief could, in this caſe, be expected from waiting, I at once reſolved to give her the chance of an immediate delivery ; which I effected by introducing my hand into the uterus, turning and bringing away the fœtus ; and this I did with much greater eaſe than I could have imagined, as the reſiſtance from the uterus was very trifling ; I endeavored to paſs my hand through the ſubſtance of the placenta, but not being able to do it, I ſeparated it on one ſide, until there was room for my hand to paſs.

THE woman remained very faint and weak a long time after delivery, but being carefully nurſed, ſhe recovered by degrees, and was able to go out before the end of the month. This was likewiſe a dead child.

CASE VII.

DECEMBER 29, 1772, about ſix o'clock in the morning, I was called to ——— *Freeman*, a poor woman, who was under the care of a midwife ; ſhe had been flooding many hours, and had loſt an immoderate quantity of blood, was greatly ſunk, and appeared to be almoſt dying. On examination, I found the mouth of the uterus as open as in the laſt caſe, and the placenta ſituated in like manner, which determined me to purſue the ſame method I had ſo ſucceſsfully uſed in that.

THE pelvis was narrow and diſtorted, but I introduced my hand into the uterus, and turned the child with all deſirable eaſe ; the feet, body, and arms of the fœtus I brought down in the uſual manner, and with no more than uſual difficulty ; but when I came to the head, it remained ſo faſt betwixt the bones of the pelvis, that though I got one of my fingers into the mouth, (the face being towards the ſacrum) and pulled the body, at the ſame time, with conſiderable force, I could not move it in the leaſt degree, inſomuch that the vertebræ of the neck began to give way ; which made me deſiſt from pulling ſo forcibly, and induced me to ſend for the aſſiſtance of another ſurgeon.

HE

HE made ſeveral ſimilar but unſucceſsful attempts; we there-therefore concluded, that nothing but leſſening the ſize of the head, by evacuating the brain, would allow it to paſs; but to effect this was no eaſy matter; he thought it poſſible to paſs the ſciſſars through the os palati into the head, and attempted it; when the ſciſſars had pierced the bones, I endeavored to enlarge the opening, but could not do it; in tracing with my finger round the head, as far as I was able, I thought there was a poſſibility of puſhing in ſome curved inſtrument behind the ear, at the lower end of the temporal bone; but the ſciſſars being ſtrait, I could not uſe them; however, from the looſeneſs of the ſcalp, (for it ought to be obſerved, that the child was dead, and almoſt putrid, which was certainly the reaſon why the vertebræ of the neck ſeparated ſo eaſily, when I attempted to pull the head) I thought I could puſh in the curved end of a blunt hook, which, with a good deal of difficulty, I effected, and by degrees inſinuated it under the temporal bone; the opening I eaſily enlarged by my finger, and with one blade of the forceps, ſo that at length ſome of the brain came away, the head was thereby compreſſed into a ſmaller compaſs, and ſhe was delivered: But the extreme fatigue ſhe had undergone by this unlucky difficulty, joined to the immoderate loſs of blood ſhe had previouſly ſuſtained, was more than ſhe was able to ſupport, and ſhe died the following morning.

SINCE the above caſe happened, I have procured a pair of ſciſſars curved at the points, (ſomewhat like tonſil ſciſſars) which may eaſily be uſed where it is found neceſſary to open the head, after delivering the reſt of the child.

CASE X.

FEBRUARY 12, 1773, I was ſent for to —— *Marſhall*, a poor woman in the workhouſe, who was in her laſt month of pregnancy, and had been flooding about two hours; ſhe had, in that time, loſt a very great quantity of blood, and was ſo much ſunk by it, that ſhe died ſoon after I came into the room.

I HAD an opportunity of opening the body, the following morning: The membranes adhered univerſally to the uterus, by the ſpongy chorion; I carefully meaſured the water contained in the bag, and there were three pints of it: The child laid, with the head

obliquely

obliquely to the right ſide of the fundus uteri, and the face towards the ſpine; the hands were turned upon the face, holding each one of the feet, ſo that the podex would have preſented; the placenta was ſituated upon the os uteri, and a partial ſeparation of it, not bigger than a crown piece, was the cauſe of this fatal hæmorrhage. Before ſhe died, I examined with my finger, found the uterus very little open, and did not feel the placenta.

REMARK.

THIS caſe proves, that the os uteri ſometimes does not at all dilate to the ſize that has been uſually thought neceſſary for ſafe delivery, and that it is not, therefore, always right to defer turning the child, in expectation of it: Had I been with the woman ſooner, I certainly ſhould have attempted it; and as from the firſt, there had been a conſiderable diſcharge, in all probability the uterus was ſo relaxed, that it might have been eaſily and ſafely effected.

CASE XIII.

JUNE 27, 1773, —— *Playford.* She was attended by a midwife, at the time I was ſent for, and had been flooding very much ſeveral hours; the diſcharge was ſtill profuſe, the os uteri quite ſhut, and from the faintneſs ſhe was in, ſhe was altogether without pain, though the complaint came on with labor pains: She had the moſt threatening appearance, and I very much feared I could be of no ſervice to her, and intimated it to the midwife and the aſſiſtants, but added, that if there were any poſſible chance, it muſt be from immediately delivering her.

AS they were deſirous of another ſurgeon's opinion, I ſent for a gentleman, who confirmed what I had ſaid reſpecting the danger the woman was in, and agreed with me, that the only chance ſhe could have muſt be from a ſpeedy delivery; the practicability of which, however, he rather doubted, as the os tincæ was ſo little open: I apprehended great difficulty in doing it, and feared likewiſe, that if I ſucceeded in bringing away the child, the woman would hardly ſurvive the loſs ſhe had ſuſtained; but having ſucceeded before, much beyond my expectation, I thought it right to attempt it: I introduced my hand into the vagina, for this purpoſe, and firſt one, then more fingers, into the uterus, when (and not before) I found the

the placenta fixed to the os uteri; I endeavored to paſs my finger through the ſubſtance of it, but was not able, though I tried ſome time; I therefore ſeparated it on one ſide, and got my hand completely into the uterus; the head of the child preſented, but I ſoon got hold of the feet, brought them down, and delivered with the ſame eaſe as in the laſt caſe of turning: The woman remained very languid a long while, and ſeemed hardly alive for many hours; but by ſupplying her frequently with cool and nutritious drinks, and carefully managing her in other reſpects, ſhe recovered entirely.

REMARK.

THIS caſe appears much to have reſembled that of *Marſhall*, who died undelivered; as the diſcharge was very profuſe, and the uterus very little open, the difference in the event being produced merely by my being fortunately called ſooner to this woman. The eaſe with which the turning was effected, and the ſucceſs which attended it, confirm the remark made to that caſe, that it is *ſometimes* juſtifiable to deliver where the os uteri is not dilated to the ſize of a ſhilling, or a half crown.

CASE XXII.

DECEMBER 16, 1774, ——— *Smith*, a healthy, ſtrong young woman, in the laſt month of pregnancy, ſent for me in the evening, having had, for ſeveral hours, a diſcharge of blood from the uterus. I immediately introduced my hand into the vagina, and with one finger in the os uteri, which was ſoft and yielding, I imagined I found the placenta; but, upon further examination, was ſatisfied that it was nothing more than a coagulum of blood, as I very evidently felt the membranes, with the head of the child behind them. The dilatation produced by this examination, was ſufficient to have rendered the introduction of the hand into the uterus, to turn the fœtus, if it had been neceſſary, very practicable; but being confident of the great probability, not to ſay certainty, there was of nature's being able to expel the child in due time, I thought it right to endeavor to reſtrain the preſent diſcharge, and wait for pain. This was ſoon effected, by the uſual means, and there ſeemed a probability of her going to her full time, if kept ſtill and cool, for it ſtopped entirely for two days.

IT returned, however, on the third day from the firſt attack, when it was probably occaſioned by ſome imprudent exerciſe in the woman, as ſhe had not yet gone her full time; but being now accompanied with pains, the uterus opened, the child was puſhed down and expelled with remarkable eaſe. The hæmorrhage, in this caſe, rather increaſed after the delivery of the child, and did not abate until the placenta was removed, which did not deſcend ſo ſoon as it uſually does.

CASE XXIV.

JUNE 19, 1775, I was ſent for to ——— *Hoole*, a poor woman, under the care of a midwife: She had been flooding ſeveral hours, and, in the laſt half hour, the diſcharge had conſiderably increaſed. I immediately examined *with my hand in the vagina* (for with the finger only I could but juſt touch the outſide of the os uteri) and found, by introducing one finger into the uterus, that the placenta was at the mouth of it: She had loſt a conſiderable quantity of blood, and was very faint, but did not appear to have ſuffered ſo much as to have induced me, had the placenta not been there, or had I made no inquiry to find it, to have turned the child; but being convinced of the danger of delay, I determined to deliver; and previous to my doing it, ſent for a ſurgeon who had been before with me in ſome of the foregoing caſes.

WHEN he came, I told him the woman's ſituation, and deſired him to examine in the common way, with one finger only, which he did, but could find nothing unuſual at the mouth of the womb; I then deſired him to introduce his hand, as I had done; he did this, and immediately diſcovered the placenta; he, therefore, agreed with me in the propriety of immediate delivery.

I INTRODUCED my hand into the uterus, and found the child lying in the natural poſture; I paſſed the head, and with tolerable eaſe got hold of the feet, brought them down, and extracted a dead child.

THE woman remained extremely languid for ſome time after delivery; but, notwithſtanding this, and that ſhe labored under every diſadvantage produced by extreme poverty, and a remarkble ignorance in her aſſiſtants, having neither pure air, clean linen, and hardly common nutriment for ſeveral hours, yet ſhe perfectly recovered.

[WE

[WE are indebted for the three following Extracts* to our ingenious countryman, the celebrated Dr. BENJAMIN RUSH, Profeſſor of Chymiſtry at the Univerſity of Pennſylvania, and Honorary Member of the Maſſachuſetts Medical Society.]

An Account of the DISORDER *occaſioned by drinking* COLD WATER *in* warm Weather, *and the Method of curing it.*

FEW ſummers elapſe in Philadelphia, in which there are not inſtances of many perſons being affected by drinking cold water. In ſome ſeaſons four or five perſons have died ſuddenly from this cauſe in one day.

THIS mortality falls chiefly upon the laboring part of the community, who ſeek to allay their thirſt by drinking the water from the pumps in the ſtreets, and who are too impatient or too ignorant to uſe the neceſſary precautions for preventing its morbid or deadly effects upon them. Theſe accidents ſeldom happen, except when the ☿ riſes above 85° in Fahrenheit's thermometer.

THREE circumſtances generally concur to produce diſeaſe or death from drinking cold water.——1. The patient is extremely warm.—2. The water is extremely cold.—And 3. A large quantity of it is ſuddenly taken into the body. The danger from drinking the cold water is always in proportion to the degrees of combination which occur in the three circumſtances that have been mentioned.

THE following ſymptoms generally follow, where cold water has been taken, under the above circumſtances, into the body.

IN a few minutes after the patient has ſwallowed the water, he is affected by a dimneſs of ſight; he ſtaggers in attempting to walk, and unleſs ſupported, falls to the ground; he breathes with difficulty; a rattling is heard in his throat; his noſtrils and cheeks expand and contract in every act of reſpiration; his face appears ſuffuſed with blood, and of a livid color; his extremities become cold, and

* *Vide* Medical Inquiries and Obſervations. By Benjamin Ruſh, M. D. Profeſſor of Chymiſtry in the Univerſity of Pennſylvania. 8vo.—*Lond.* 1789.

and his pulſe imperceptible; and unleſs relief is ſpeedily obtained, the diſorder terminates in death in four or five minutes.

THIS deſcription includes only the leſs common caſes of the effects of drinking a *large* quantity of *cold* water, when the body is *preternaturally* heated. More frequently, patients are ſeized with acute ſpaſm in the breaſt and ſtomach. Theſe ſpaſms are ſo painful as to produce ſyncope, and even aſphyxia. They are ſometimes of the tonic but more frequently of the clonic kind. In the intervals of the ſpaſms the patient appears to be perfectly well. The intervals between each ſpaſm become longer or ſhorter, according as the diſeaſe tends to life or death.

IT may not be improper to take notice that punch, beer, and even toddy, when drank under the ſame circumſtances as cold water, have all been known to produce the ſame morbid and fatal effects.

I KNOW of but one certain remedy for this diſeaſe, and that is *liquid laudanum*. The doſes of it as in other caſes of ſpaſm, ſhould be proportioned to the violence of the diſeaſe. From a tea ſpoonful to near a table ſpoonful have been given in ſome inſtances, before relief has been obtained. Where the powers of life appear to be ſuddenly ſuſpended, the ſame remedies ſhould be uſed, which have been ſo ſucceſsfully employed in recovering perſons ſuppoſed to be dead from drowning.

CARE ſhould be taken in every caſe of diſeaſe, or apparent death, from drinking cold water, to prevent the patient's ſuffering from being ſurrounded, or even attended by too many people.

PERSONS who have been recovered from the immediate danger which attends this diſeaſe, are ſometimes affected after it, by inflammations and obſtructions in the breaſt or liver. Theſe generally yield to the uſual remedies which are adminiſtered in thoſe complaints, when they ariſe from other cauſes.

IF neither the voice of reaſon, nor the fatal examples of thoſe who have periſhed from this cauſe, are ſufficient to produce reſtraint in drinking a large quantity of *cold* liquors, when the body is *preternaturally* heated, then let me adviſe to

1. GRASP the veſſel out of which you are about to drink, for a minute or longer with both your hands. This will abſtract a portion of heat from the body, and impart it at the ſame time to the cold liquor, provided the veſſel is made of metal, glaſs, or earth; for heat follows the ſame laws in many inſtances, in paſſing through bodies with regard to its relative velocity, which we obſerve to take place in electricity.

2. IF you are not furniſhed with a cup, and are obliged to drink by bringing your mouth in contact with the ſtream which iſſues from a pump or a ſpring, always waſh your hands and face previouſly to your drinking, with a little of the cold water. By receiving the ſhock of the water firſt upon thoſe parts of the body, a portion of its heat is conveyed away, and the vital parts are thereby defended from the action of the cold.

An Account of the external Uſe of ARSENIC *in the Cure of* CANCERS.

A FEW years ago a certain Dr. Hugh Martin, a ſurgeon of one of the Pennſylvania regiments ſtationed at Pittſburg, during the latter part of the late war, came to this city, and advertiſed to cure cancers with a medicine which he ſaid he had diſcovered in the woods, in the neighbourhood of the garriſon. As Dr. Martin had once been my pupil, I took the liberty of waiting upon him, and aſked him ſome queſtions reſpecting his diſcovery. His anſwers were calculated to make me believe, that his medicine was of a vegetable nature, and that it was originally an Indian remedy. He ſhewed me ſome of the medicine, which appeared to be the powder of a well dried root of ſome kind. Anxious to ſee the ſucceſs of this medicine in cancerous ſores, I prevailed upon the doctor to admit me to ſee him apply it in two or three caſes. I obſerved in ſome inſtances, he applied a powder to the parts affected, and in others only touched them with a feather dipped in a liquid which had a white ſediment, and which he made me believe was the vegetable root diffuſed in water. It gave me great pleaſure to witneſs the efficacy of the doctor's applications. In ſeveral cancerous ulcers

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the cures he performed were complete. Where the cancers were much connected with the lymphatic ſyſtem, or accompanied with a ſcrophulous habit of body, his medicine always failed, and, in ſome inſtances, did evident miſchief.

ANXIOUS to diſcover a medicine that promiſed relief in even a few caſes of cancers, and ſuppoſing that all the cauſtic vegetables were nearly alike, I applied the phytolacca or poke root, the ſtramonium, the arum, and one or two others, to foul ulcers, in hopes of ſeeing the ſame effects from them which I had ſeen from Dr. Martin's powder; but in theſe I was diſappointed. They gave ſome pain, but performed no cures. At length I was furniſhed by a gentleman from Pittſburg with a powder which I had no doubt, from a variety of circumſtances, was of the ſame kind as that uſed by Dr. Martin. I applied it to a fungous ulcer, but without producing the degrees of pain, inflammation, or diſcharge, which I had been accuſtomed to ſee from the application of Dr. Martin's powder. After this, I ſhould have ſuſpected that the powder was not a *ſimple* root, had not the doctor continued upon all occaſions to aſſure me, that it was wholly a vegetable preparation.

IN the beginning of the year 1784, the doctor died, and it was generally believed that his medicine had died with him. A few weeks after his death I procured, from one of his adminiſtrators, a few ounces of the doctor's powder, partly with a view of applying it to a cancerous ſore which then offered, and partly with a view of examining it more minutely than I had been able to do during the doctor's life. Upon throwing the powder, which was of a brown color, upon a piece of white paper, I perceived diſtinctly a number of white particles ſcattered through it. I ſuſpected at firſt that they were corroſive ſublimate, but the uſual teſts of that metallic ſalt ſoon convinced me that I was miſtaken. Recollecting that arſenic was the baſis of moſt of the celebrated cancer powders that have been uſed in the world, I had recourſe to the teſts for detecting it. Upon ſprinkling a ſmall quantity of the powder upon ſome coals of fire, it emitted the garlic ſmell ſo perceptibly as to be known by ſeveral perſons whom I called into the room where I made the experiment, and who knew nothing of the object of my inquiries. After this, with ſome difficulty, I picked out about three or four

grains

grains of the white powder, and bound them between two pieces of copper, which I threw into the fire. After the copper pieces became red hot, I took them out of the fire, and when they had cooled, discovered an evident whiteness imparted to both of them. One of the pieces afterwards looked like dull silver. These two tests have generally been thought sufficient to distinguish the presence of arsenic in any bodies; but I made use of a third, which has lately been communicated to the world by Mr. Bergman, and which is supposed to be in *all cases* infallible.

I INFUSED a small quantity of the powder in a solution of a vegetable alkali in water for a few hours, and then poured it upon a solution of blue vitriol in water. The color of the vitriol was immediately changed to a beautiful green, and afterwards precipitated.

I SHALL close this paper with a few remarks upon this powder, and upon the cure of cancers and foul ulcers of all kinds.

1. THE use of caustics in cancers and foul ulcers is very ancient, and universal. But I believe *arsenic* to be the most efficacious of any that has ever been used. It is the basis of Plunket's and probably of Guy's well known cancer powders. The great art of applying it successfully, is to dilute and mix it in such a manner as to mitigate the violence of its action. Dr. Martin's composition was happily calculated for this purpose. It gave less pain than the common or lunar caustic. It excited a moderate inflammation, which separated the morbid from the sound parts, and promoted a plentiful afflux of humors to the sore during its application. It seldom produced an escar; hence it insinuated itself into the deepest recesses of the cancers, and frequently separated those fibres in an unbroken state which are generally called the roots of the cancer. Upon this account, I think, in an ulcerated cancer it is to be preferred to the knife. It has no action upon the sound skin. This Dr. Hall proved by confining a small quantity of it upon his arm for many hours. In those cases where Dr. Martin used it to extract cancerous or schirrhous tumors that were not ulcerated, I have reason to believe that he always broke the skin with Spanish flies.

2. THE arsenic used by the doctor was the pure white arsenic. I should suppose from the examination I made of the powder with the eye,

eye, that the proportion of arſenic to the vegetable powder, could not be more than $\frac{1}{40}$ part of the whole compound. I have reaſon to think that the doctor employed different vegetable ſubſtances at different times. The vegetable matter with which the arſenic was combined in the powder which I uſed in my experiments, was probably nothing more than the powder of the root and berries of the ſolanum lethale, or deadly nightſhade. As the principal, and perhaps the only deſign of the vegetable addition was to blunt the activity of the arſenic, I ſhould ſuppoſe that the ſame proportion of common wheat flour as the doctor uſed of his cauſtic vegetables, would anſwer nearly the ſame purpoſe. In thoſe caſes where the doctor applied a feather dipped in a liquid to the ſore of his patient, I have no doubt but his vial contained nothing but a weak ſolution of arſenic in water. This is no new method of applying arſenic to foul ulcers. Dr. Way, of Wilmington, has ſpoken in the higheſt terms to me of a waſh for foulneſſes on the ſkin, as well as old ulcers, prepared by boiling an ounce of white arſenic in two quarts of water to three pints, and applying it once or twice a day.

3. I MENTIONED, formerly, that Dr. Martin was often unſucceſsful in the application of his powder. This was occaſioned by his uſing it indiſcriminately in *all* caſes. In ſchirrous and cancerous tumors, the knife ſhould always be preferred to the cauſtic. In cancerous ulcers attended with a ſcrophulous or a bad habit of body, ſuch particularly as have their ſeat in the neck, in the breaſts of females, and in the axillary glands, it can only protract the patient's miſery. Moſt of the cancerous ſores cured by Dr. Martin were ſeated on the noſe, or cheeks, or upon the ſurface or extremities of the body. It remains yet to diſcover a cure for cancers that taint the fluids, or infect the whole lymphatic ſyſtem. This cure I apprehend muſt be ſought for in diet, or in the long uſe of ſome internal medicine.

TO pronounce a diſeaſe incurable, is often to render it ſo. The intermitting fever, if left to itſelf, would probably prove frequently, and perhaps more ſpeedily fatal than cancers. And as cancerous tumors and ſores are often neglected, or treated improperly by injudicious people, from an apprehenſion that they are incurable, (to which the frequent advice of phyſicians "to let them alone," has

no

no doubt contributed) perhaps the introduction of arſenic into regular practice as a remedy for cancers, may invite to a more early application to phyſicians, and thereby prevent the deplorable caſes that have been mentioned, which are often rendered ſo by delay or unſkilful management.

4. IT is not in cancerous ſores only that Dr. Martin's powder has been found to do ſervice. In ſores of all kinds, and from a variety of cauſes, where they have been attended with fungous fleſh or callous edges, I have uſed the doctor's powder with advantage.

I FLATTER myſelf that I ſhall be excuſed in giving this detail of a *quack* medicine, when we reflect that it was from the inventions and temerity of quacks, that phyſicians have derived ſome of their moſt active and moſt uſeful medicines.

An Account of the Efficacy of common SALT, *in the cure of* HÆMOPTYSIS.

FROM the preſent eſtabliſhed opinions and practice reſpecting the cauſe and cure of *hæmoptyſis*, the laſt medicine that would recur to a regular bred phyſician for the cure of it, is *common ſalt*; and yet I have ſeen and heard of a great number of caſes, in which it has been adminiſtered with ſucceſs.

THE mode of giving it, is to pour down from a tea, to a table ſpoonful of clean fine ſalt as ſoon as poſſible after the hæmorrhage begins from the lungs. This quantity generally ſtops it; but the doſe muſt be repeated daily for three or four days, to prevent a return of the diſorder. If the bleeding continues, the ſalt muſt be continued until it is checked, but in larger doſes. I have heard of ſeveral inſtances in which two table ſpoonfuls were taken at one time for ſeveral days.

IT ſometimes excites a ſickneſs at the ſtomach, and never fails to produce a burning ſenſation in the throat in its paſſage into the ſtomach, and conſiderable thirſt afterwards. I have found this remedy to ſucceed equally well in hæmorrhages, whether they were active or paſſive, or whether they occurred in young or in old people.

I HAD

I HAD preſcribed it for ſeveral years before I could ſatisfy myſelf with a theory, to account for its extraordinary action upon the human body. My inquiries led me to attend more particularly to the following facts:

1. THOSE perſons who have been early inſtructed in vocal muſic, and who uſe their vocal organs moderately through life, are ſeldom affected by an hæmorrhage from the lungs.

2. LAWYERS, players, public cryers, and city watchmen, all of whom exerciſe their lungs either by long or loud ſpeaking, are leſs affected by this diſorder, than perſons of other occupations.

I ACKNOWLEDGE I cannot extend this obſervation to the public teachers of religion. I have known ſeveral inſtances of their being affected by hæmoptyſis; but never but one in which the diſorder came on in the pulpit, and that was in a perſon who had been recently cured of it. The cauſes which I have ſeen, have generally been brought on by catarrhs.

TO this diſorder, the practice of ſome of our American preachers diſpoſes them in a peculiar manner; for it is very common with this claſs of them, to expoſe themſelves to the cold or evening air immediately after taking what a celebrated and eloquent preacher uſed to call a *pulpit ſweat*.

3. THIS hæmorrhage chiefly occurs in debilitated habits, or in perſons afflicted by ſuch a diſpoſition to conſumption, as indicates a weak and relaxed ſtate of the lungs.

4. IT generally occurs when the lungs are in a paſſive ſtate, as in ſitting, walking, and more frequently in lying. Many of the caſes that I have known, have occurred during ſleep in the middle of the night.

FROM theſe facts, is it not probable that the common ſalt, by acting primarily, and with great force upon the throat, extends its ſtimulus to the bleeding veſſel, and by giving it a tone, checks the further effuſion of blood?

I SHALL only add to this conjecture the following obſervations:

1. I HAVE

1. I HAVE never known the common ſalt perform a cure, where the hæmorrhage from the lungs has been a ſymptom of a conſumption. But even in this caſe it gives a certain temporary relief.

2. THE exhibition of common ſalt in the hæmoptyſis, ſhould by no means ſupercede the uſe of occaſional bleeding when indicated by plethora, nor of that diet which the ſtate of the pulſe or of the ſtomach, may require.

3. I HAVE given the common ſalt in one caſe with ſucceſs, in an hæmorrhage from the ſtomach, accompanied by a vomiting; and have heard of ſeveral caſes in which it has been ſuppoſed to have checked a diſcharge of blood from the noſe and uterus, but I can ſay nothing further in its favor in theſe laſt hæmorrhages, from my own experience.

A Caſe of HÆMOPTYSIS, *related in a Letter from Mr.* WILLIAM JONES, *Surgeon at* BIRMINGHAM, *G. B. to Dr.* DUNCAN *at Edinburgh, dated September*, 1786.*

"MRS. S. of this town, had had a violent cough, during the greateſt part of laſt winter, attended, when I firſt ſaw her, with an alarming degree of *hæmoptyſis*, plethora, the uſual ſymptoms of fever, and frequent profuſe cold ſweats. She was thus circumſtanced on the evening of May 26, 1786, when I took away ſome blood; and as ſhe was coſtive, preſcribed an opening mixture to be taken at ſtated intervals, until her bowels were opened. The next day, I directed a grain of the fox glove *(digitalis purpurea. Linnæi)* in pills, to be taken every morning and night. Four doſes were ſufficient to remove the *hæmoptyſis*. And ſhe recovered in a few days, to the degree of health ſhe had before its appearance. Other inſtances of ſimilar ſucceſs, have occurred, both to my friend Mr. Mynors, and myſelf, and that without the uſe of venæſection, in certain reduced, ſcrophulous, and leucophlegmatic habits.

IN

* *Vide* Duncan's Medical Commentaries. Decad. II. Vol. I.—*Edinb.* and *Lond.* 1787.

IN the attendant ſymptoms of hæmoptyſis, ſuch as quick circulation and fever, venæſection being premiſed in plethoric caſes, the *fox glove* occaſionally adminiſtered, may be readily managed, ſo as ſoon to bring down the moſt rapid pulſe to its natural ſtandard, without occaſioning any violent ſymptom whatever. In conſequence of theſe properties, it will be found capable of preventing the neceſſity for repetitions of bleeding, which has frequently occurred in this complaint when urgent."

INCONTINENCE *of* URINE.*

ASTRINGENT and corroborating medicines were formerly the remedies generally preſcribed in this diſeaſe; but the method of cure has within theſe few years been improved by Dr. Dickſon, phyſician to the London hoſpital. Having obſerved in a variety of caſes, that bliſters covering the *vertebræ* of the neck, and going obliquely to the ſhoulder, were remarkably more uſeful in palſies of the upper extremities, than when applied to theſe parts, he formed the reſolution to try the effects of them in palſies of the lower extremities, by laying them upon the region of the *os ſacrum*. This experiment he repeated ſeveral times, with as much ſucceſs as convinced him that veſicatories proved infinitely more advantageous thus uſed, than when applied either to the thighs or legs.

FROM the obſervations which Dr. Dickſon had already made, he was induced to try the effects of a bliſter laid on the region of the *os ſacrum* in an incontinence of urine; knowing that moſt of the nerves, which go to the bladder, paſs through the *foramina* of that bone. The firſt perſon on whom he made the trial, was a girl about thirteen years of age, who had labored under an incontinence of urine during four years. She had taken bark and elixir of vitriol in no ſmall quantities, and afterwards valerian, with the volatile julep, for a conſiderable time. A large bliſter being applied to the *os ſacrum*, the incontinence of urine was totally removed within twenty four hours.

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* *Vide* Modern Improvements in the Practice of Phyſic, by Henry Manning, M. D.—*Lond.* 1780.

THE next caſe of an incontinence of urine, in which he tried this remedy, was accompanied with a palſy of the lower extremities, and its good effects were remarkable in reſpect of both theſe diſeaſes. The patient, who was thirty two years of age, had been ſeized with the palſy about a year before his admiſſion into the London hoſpital; and at this time he was attacked with a ſuppreſſion of urine, which notwithſtanding the uſe of various medicines, laſted four days, attended with great diſtention of the belly, and exceſſive pain. His urine then came away involuntarily, and he had ſo obſtinate a coſtiveneſs, that he never went to ſtool without taking ſome purging medicine.

AT firſt the patient was ordered two ounces of *tinctura ſacra* to be taken immediately, and a ſpoonful every night and morning, or occaſionally, to keep his belly open; beſides half a drachm of bark, with the ſame quantity of valerian, to be taken three times a day. Four days afterwards a large bliſter was applied to the region of the *os ſacrum*; the effect of which was ſo great, that in leſs than twenty four hours he could retain his water above an hour at a time, and in a week for two hours; the incontinence of urine gradually diminiſhing, until the diſeaſe entirely diſappeared.

THE efficacy of bliſters thus applied in incontinence of urine, Dr. Dickſon has repeatedly aſcertained in ſeveral caſes; and the fact derives additional confirmation from other experiments communicated by Dr. Fothergill, of Northampton.

Extract of a Letter from Dr. ROBERT HAMILTON, *Phyſician at Lynn Regis, to Dr.* DUNCAN, *giving an Account of a ſucceſsful Method of treating* INFLAMMATORY DISEASES, *by* MERCURY *and* OPIUM.*

I HAVE taken the liberty to ſend you the following ſummary account of a ſucceſsful method of treating inflammatory diſeaſes with mercury and opium, which has been practiſed here almoſt eighteen

* *Vide* Medical Commentaries, by Andrew Duncan, M. D. F. R. S. &c. Vol. IX.—*Lond.* 1785.

eighteen years, and I believe is ſcarcely known any where elſe in the kingdom; and therefore, I flatter myſelf you will think, may, with propriety, be inſerted in your valuable Commentaries, that it may be communicated to the world.

THE following circumſtance firſt led me to this method of treating inflammatory diſtempers.

AT the cloſe of the year 1764, the fleet which returned from the Eaſt Indies, brought a worthy ſurgeon of the navy to England, who had ſerved in that country eight years. By this gentleman I was informed, that the eſtabliſhed method of curing the hepatitis, or endemial inflammation of the liver, incident more particularly to Europeans than the natives in that country, was by mercury: That mercury was, in general, eſteemed a ſpecific in that diſeaſe: That the method was, after the patient had loſt ſome blood, and taken ſome gentle purgative, to have a ſtrong mercurial ointment rubbed in on the region of the liver, and to give either calomel, mercurius alkaliſatus, or the mercurial pill, until the ſalivary glands were affected by the mercury, or the inflammation removed: That the ſooner a gentle ſpitting was raiſed by theſe means, the ſooner the patient got well: That this method of cure was generally ſucceſsful, if employed early in the diſtemper; but if it was neglected, the liver, which was commonly ſo turgid as to be perceived externally to be enlarged, ſoon ſuppurated: That he had had a number of patients with ſuppurations in the liver, from this diſeaſe, under his care, and had opened many of thoſe abſceſſes. Some of his patients thus treated had recovered, but more became tabid, and ſunk under the profuſe diſcharge.

OUR diſeaſes are nearly the ſame with thoſe of ſimilar ſituations in India; particularly the bilious autumnal remittent and intermittent fevers, an allowance being made for their difference in violence and malignity, from the greater exaltation of the ſubtle poiſonous miaſmata, by the intenſe heat of the climate in India. We have ſometimes a moſt dangerous hepatitis. Some patients in that diſorder falling under my care, ſoon after my friend's arrival from India, I gave the method of cure with mercury a trial, and found it ſucceſsful. I uſed the ointment in very few inſtances, and gave no preparation internally but calomel; to which I ſoon, however, found it

neceſſary

neceſſary to add opium, in order to relieve that diſtreſſing concomitant of inflammation, the pain, which happily anſwered that purpoſe moſt effectually.

I CONSIDERED, that the general cauſe (be what it may) of an inflammatory diatheſis, muſt be the ſame, whether the inflammation is ſeated in the meninges, pleura, lungs, liver, diaphragm, or any other internal membranous part; and therefore, the circumſtance of locality could make little or no alteration in the general intention of cure. From theſe premiſes, the following deduction naturally aroſe.

AS mercury had proved ſo ſucceſsful an agent in removing inflammation in the ſeveral inſtances above mentioned, it was reaſonable, from analogy, to conclude, that it would prove equally ſo in every kind of inflammatory diſeaſe. Wherefore I was determined to give it a fair trial in every one, as opportunities offered for that purpoſe, and flattered myſelf, from the data before me, that my experiments would be attended with ſucceſs.

THE peripneumony was the firſt diſeaſe that fell under my care, after this reſolution was taken. The ſucceſs attending the adminiſtration of calomel and opium here, filled me with aſtoniſhment. I was ſucceſsful in a great number of caſes, and under a variety of circumſtances. I have had the ſatisfaction to ſee women far advanced in pregnancy, in a manner reſcued from death, in the laſt ſtage of the peripneumony, by calomel and opium, after every other means, which had been tried, had failed in relieving the patients. I had the pleaſure afterwards of ſeeing them go their full time, be ſafely delivered of living children, and enjoy the happineſs of bearing ſeveral others ſince that period. I have known many a life ſaved in the ſymptomatic, variolous and morbillous peripneumony, by theſe medicines; and I never ſaw any remedies afford ſo certain and ſpeedy relief in obſtinate dry catarrhous coughs, as thoſe, particularly when continued until the mouth became affected by the mercury. The ſame means have proved equally efficacious in pleuriſies. But the moſt extraordinary and early relief I ever ſaw calomel and opium give, was in the phrenitis and paraphrenitis, which has been repeatedly experienced in a great number of caſes. Inflammations of the inteſtines, and other parts within the abdomen, have moſt readily yielded to this treatment. I have, in the 66th volume of the Philo-

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ſophical Tranſactions, in the account of a puncture made into the bladder through the anus, for the cure of a ſuppreſſion of urine, mentioned the uſe of calomel and opium in that diſorder. I have known the greateſt benefit ariſe from thoſe medicines, in child bed fevers, with highly inflammatory ſymptoms. In the inflammatory angina, calomel mixed with thebaic tincture and honey, laid upon the root of the tongue, and ſwallowed gradually, has frequently given great relief.

HAVING ſucceeded in the moſt unequivocal manner, in curing local inflammatory diſeaſes by this practice, my experiments were next directed to that formidable malady of general inflammation, the acute rheumatiſm; and I had the ſatisfaction to ſee this alſo give way moſt readily to it.

OUR mode of practice, in this town, in all inflammatory diſeaſes, ariſing either from an internal or external cauſe, is as follows:

BLOOD is to be taken away in the beginning of the diſeaſe, according to the violence of the ſymptoms, and the age and conſtitution of the patient. The bowels are then to be opened, either by glyſter or an eccoprotic purgative. After which a bolus is adminiſtered every ſix, eight, or twelve hours, as the degree of inflammation requires; conſiſting of from 5 to one gr. of calomel, and from 1 to ½ gr. of opium, with any conſerve: Plentiful dilution is ſtrictly enjoined. The diſtemper commonly gives way in forty eight hours, and ſoon terminates.

IF the fever is violent, accompanied with a dry contracted arid ſkin; emetic tartar, and ſometimes camphor, are added. And I beg leave here to obſerve, that I never found any medicine, either in a ſimple or aggregate ſtate, produce ſo certainly a relaxation of the ſkin, and a plentiful diſcharge from its pores, as a compoſition of calomel, opium, emetic tartar, and camphor, which has alſo the advantage of increaſing the evacuations by ſtool and urine: From which it would appear, that the glandular ſecretions, in general, are moſt eſſentially promoted by this compoſition.

MEDICAL PAPERS,

COMMUNICATED TO THE

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NO. II.—PART I.

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MEDICAL PAPERS.

Article I.

A Medical Discourse *on several* Narcotic Vegetable Substances, *read before the* Massachusetts Medical Society, *at their Annual Meeting, June 4th*, 1806. *By JOSHUA FISHER, M. D. Vice-President of the Society.*

THE narcotic plants conſtitute a very important part of the materia medica. The life of the patient often depends on the accuracy of the phyſician's knowledge of their medicinal effects: it is therefore preſumed, that every attempt to extend our information, on this important ſubject, will be received with candor.

Inſtead of attempting a regular eſſay on any one of theſe medicines, permit me, on this occaſion, to offer ſome miſcellaneous, practical remarks reſpecting ſeveral of them, ſubjoining conciſe hiſtories of a few caſes.

Opium, the moſt important remedy which the vegetable kingdom affords, claims the firſt place. Much time has been ſpent in debating, whether this medicine ought to be claſſed among the ſtimulants or ſedatives. A particular diſcuſſion of this queſtion would be foreign to my preſent purpoſe: let it ſuffice to obſerve, that if we conſult experience and obſervation, we ſhall find that medicine, as well as diſeaſe, frequently affects the human body in a manner very different from that which is pointed out by the framers of ſyſtems:—that Opium may either increaſe ſenſibility and action, diminiſh them, or produce the one effect in ſucceſſion to the other; that it is capable of increaſing action in one part of the body, while it diminiſhes it in another—of removing morbid actions, while it increaſes ſome of thoſe that are natural—of exciting or increaſing morbid actions—and of deſtroying action altogether.

Opium appears naturally to produce, at firſt, an increaſe, in ſome degree, of ſenſibility and action; and afterwards, in a ſtill greater degre, a diminution of both. From the experiments of Dr. Crumpe, it appears, that given to a perſon in health, it gradually accelerates the pulſe for about half an hour; afterwards, for a longer or ſhorter ſpace of time, generally

ly according to the quantity given, the pulſe is retarded : but ſuch is the variety of operation, produced by the various combinations of natural temperament, ſtate of the ſyſtem, quantity taken, and other circumſtances, that the one or the other of theſe effects is often ſcarcely perceptible. In ſmall doſes, it appears ſometimes to act as a ſimple ſtimulant ; producing exhilaration, watchfulneſs, &c. while in large doſes, under different, or even the ſame circumſtances, it produces effects directly the reverſe, without any perceptible previous excitement. In caſes of painful ſpaſms, we commonly find the diſeaſe increaſed, in five or ſix minutes, even under a doſe that will, in twice that time, produce an alleviation. In caſes where the doſe is inſufficient, by one half, to remove the ſpaſms, the effect ſeems to be the ſame, as under a full doſe, when the time is inſufficient by one half ; that is, the diſeaſe is uſually augmented ; but with this difference, that, in the one caſe, the augmentation is only for a very ſhort time ; in the other, it becomes, in ſome meaſure, permanent. Hence it appears not improbable, that Opium may be exhibited in ſuch doſes, and at ſuch intervals, as to aggravate the diſeaſe in almoſt any conceivable degree. How often this may have actually taken place, in practice, cannot be determined : we have hiſtories

hiſtories of ſome caſes of ſevere ſpaſms, in which phyſicians have adventured to give a grain every hour: in ſuch caſes, it is certain that much larger doſes may be given, without any effect, except that of increaſing the complaint.

In exhibiting Opium as an anodyne, it is of importance that the requiſite doſe ſhould be given at once, or in as ſhort a ſpace of time as poſſible. In ten or twelve minutes, it may be aſcertained whether the doſe given will prove ſufficient to afford relief; if not, another ought to be given immediately, and the repetition continued, till a complete relaxation be obtained. Such doſes may always be given, at once, with perfect ſafety, as that any quantity, which the caſe may require, may be exhibited in the ſpace of an hour.

To exemplify the practice here recommended, I will mention the caſe of a young lady, aged ſeventeen, who was ſeized with excruciating ſpaſms, probably tetanus, the conſequence of a rupture of the ſartorius muſcle. Some ſlighter ſymptoms, of a ſimilar kind, had taken place on the preceding day, which had required twelve grains of Opium; that doſe was therefore ordered to be given immediately. In ten minutes, finding no abatement of the

the ſpaſms, twelve grains more were given; and the doſe was repeated every ten minutes, till ſhe had taken ſix doſes, or ſeventy-two grains. This quantity removed the ſpaſms, produced a comatoſe inſenſibility, ſlow, ſtertorous breathing, and a ſlow, full pulſe. In eight hours, the ſpaſms began to return, and the Opium was given as before. A few of the firſt doſes increaſed the ſymptoms; but, after ſhe had taken the full quantity, they diſappeared. In this manner, and with the ſame effect, the Opium was repeated, at intervals of eight hours, for three days, when the ſpaſms ceaſed, and ſhe recovered. During this period of three days, ſhe took nearly eleven drams of excellent Opium, and not a grain more than was abſolutely neceſſary.

In the colica Pictonum, or Devonſhire colic, Opium has ſometimes been given, for the purpoſe of obtaining temporary relief: but it does not appear to have been known, that, in a ſufficient doſe, it is capable of effecting a ſure, ſafe and ſpeedy cure. For many years paſt, I have not ſeen a ſingle caſe of this diſtreſſing diſeaſe, which has not yielded in about an hour. No preparation is neceſſary, except the evacuating of the ſtomach, which is generally done by a ſpontaneous puking, before we ſee the patient. The quantity of Opium, which

which has been found neceſſary to effect a cure, has varied, from fifteen to forty grains. I never have known the diſeaſe to return; nor any diſadvantage to ariſe, from this mode of practice; nor have I ever found any difficulty in moving the bowels, in the courſe of twenty-four hours, after the removal of the pain. Although Opium alone will ſucceed, it is better to join with it a few grains of calomel, in divided doſes.

The ſame mode of practice has been purſued in cholera, and with equal ſucceſs. A gentleman, of about ſixty-five years, was ſeized with this diſeaſe, in ſo violent a manner, that, when I firſt ſaw him, a few hours after the attack, his countenance was cadaverous, his noſe and hands cold, the blood had become ſtagnant around his nails, the pulſe was hardly perceptible, and every ſymptom indicated his ſpeedy diſſolution. The ſevere nauſea and puking rendered his ſtomach unable, for ſome time, to retain the neceſſary quantity of Opium; as ſoon as was practicable, we got down ſixty grains, ten of which were returned by vomiting. The quantity retained, ſoon removed every diſtreſſing ſymptom: gradually, and with difficulty, he recovered his ſtrength.

The

The *Stramonium* is another valuable medicine, of the ſame family. I ſhall confine my obſervations, reſpecting it, to its uſe in caſes of epilepſy. This practice is not new: but it ſeems not to have been attended to, at leaſt in this country, as it deſerves. Epileptic fits, in reſpect to the uſe of the Stramonium, may be divided into three claſſes. Thoſe of the firſt claſs occur daily, or very frequently. In theſe caſes, after removing worms, acids, and whatever may irritate, the patient is to be kept conſtantly under the influence of the medicine; for this purpoſe, he will require, every day, one or two doſes, according to the ſeverity of the ſymptoms. The ſaturated tincture is the moſt convenient form for children. The requiſite doſe may be known by the dilation of the pupils. While the patient is kept in this ſtate, the fits will rarely take place, and the habit of recurring is gradually broken.

In the caſe of a boy of five or ſix years old, who had been attacked three or four times, daily, for ſeveral months, his ſenſes were ſo far impaired, that he would devour the moſt filthy ſubſtances, with the ſame avidity as the moſt palatable food; after the firſt doſe of the Stramonium, the fits ceaſed; but the tendency

dency to return made it neceſſary to continue the medicine for ſome weeks longer; in proceſs of time, he recovered his reaſon.

A child, of about three years, was ſubject to fits; one generally took place every day; they had not, however, been of ſo long continuance as in the preceding caſe: by miſtake he took the Stramonium in too large a doſe; it produced ſevere vomiting, convulſions, ſtupor, &c. which continued through the day: the parents were ſo terrified, by the effect of the firſt doſe, that they could not be induced to give a ſecond: the fits, however, never returned.

Fits of the ſecond claſs either recur at regular periods, frequently monthly, or the patient is warned of their approach, by ſome previous ſymptoms. In either of theſe caſes, the Stramonium is to be given when we apprehend the acceſs of a paroxyſm, and to be diſcontinued when the danger is paſt.

All the caſes of theſe two claſſes, which have been under my care (and the number is not *very* ſmall) have been cured by the Stramonium, aſſiſted by chalybeates, or ſuch other medicines as particular ſymptoms appeared to require.

Caſes

Caſes of the third claſs do not obſerve any regular period, nor do they give any warning of their approach. They are generally excited by ſome other diſeaſe; or by ſome irregularity of the patient. In caſes of this kind, the Stramonium cannot be uſed even occaſionally, with a proſpect of much benefit; and to give it, during a long period, leſſens its antiſpaſmodic effects, and debilitates the patient.—I have ſeen it afford ſome relief, but never knew it perform a cure.

It has been obſerved, that a medicine, by being extolled beyond its merits, generally fails of ſupporting even that degree of reputation to which it is juſtly entitled. This obſervation may be applied to the *Cicuta*: but although it may be incapable of curing cancers, yet it is a very valuable medicine. In caſes of a ſcrofulous affection of the abdominal viſcera, it is, perhaps, the beſt that is known. The uſe of it is generally followed by an eruption on the ſkin; which ſeems to indicate a tranſlation of the diſeaſe. A ſtriking inſtance of this occurred in a boy, of five or ſix years old. I found him feveriſh and emaciated: the ſecretion of urine was ſmall; the abdomen tumid and tenſe. A doſe of calomel operated as a cathartic, and removed the tenſion. The whole ſurface of the abdomen then

preſented to the feel a congeries of ſmall tumours, reſembling a cluſter of grapes. The Cicuta was preſcribed. A cutaneous eruption ſoon appeared on various parts, which eventually covered the whole ſurface of the body: it took off every inch of the cuticle, and even the nails from his fingers and toes. The internal uſe of the hemlock was continued, and the child lay, for a conſiderable time, wrapped in a ſheet, ſpread over with an unguentum e cicuta. As ſoon as the ſkin was ſo far healed, that I could examine the abdomen, I found every appearance of internal diſeaſe removed: ſome tumefied glands had appeared on the ſurface, particularly in the groins; theſe would not yield to the hemlock, but gradually diſappeared, after the patient had recovered his ſtrength.

In caſes of phthiſis pulmonalis, ariſing from a ſcrofulous affection of the glands of the lungs, the Cicuta demands our attention. It muſt be acknowledged, that it has not, always, anſwered my wiſhes; particularly where the ſymptoms of ſcrofula were ambiguous; but I muſt ſay that in ſeveral inſtances I have ſeen it produce much better effects, than it has been my lot ever to witneſs from the uſe of the fox-glove.

It

It is hoped that the Cicuta will prove an efficacious remedy in cases of jaundice, produced by biliary concretions.

About twenty-five years ago, I had under my care a man, who, for several months, had laboured under a jaundice, which resisted the common methods of cure. Reflecting on the usual cause of the obstruction of the common biliary duct, it appeared to me improbable, that a biliary calculus, considering the usual form and size, should of itself, and at once, be able to produce a complete obstruction; there must therefore be a spasm or contraction of the duct. The acute spasmodic pain, often felt when a calculus first lodges in the duct, appeared to favour the supposition. A simple antispasmodic must therefore be the best remedy; and the Cicuta presented itself, as the most promising. Whether the theory be just or not, is submitted. The facts are, the man took the hemlock, every night, in increased doses. The morning after he had taken the first full dose, the bile began to pass, and the obstruction was soon completely removed.

Considering the variety of causes, which are capable of producing an obstruction of the biliary ducts, it is not supposable that hemlock, or indeed that any medicine, should, in every instance,

inſtance, be able to remove it. Three caſes of this diſeaſe, combined with others, have happened within my knowledge, where neither this, nor any other means, ſucceeded: but, excepting thoſe three, every patient, who has been under my care, for this diſeaſe, ſince my firſt uſe of this remedy; and every one, who, within my knowledge, has uſed it, has been cured by it; and, in one inſtance, the cure was effected by a ſingle doſe.

I will add only the caſe of the late Preſident WILLARD: as he reſided in this vicinity, it is probable, that moſt of the circumſtances are known to ſome of the gentlemen preſent. When I firſt ſaw him, he had laboured, for more than ſix months, under a complete jaundice. During this period, he had punctually followed the advice and preſcriptions of his phyſicians. Among other means, a courſe of calomel had been purſued, as far as was judged prudent. The obſtruction remained fixed. I gave him ſome pills of the extract of hemlock, deſiring him to take one the firſt night, and to increaſe the doſe by an additional pill, every night, till he felt the uſual ſymptoms of a full doſe. On the ſeventh night, for the firſt time, he felt a ſlight nauſea and giddineſs. The next morning, he found that the bile had begun to paſs through the duct. He

continued

continued the medicine in full doſes, for ſome time longer: the paſſage became free, and was never afterwards obſtructed.

Article II.

An Account of a Case of Ruptured Uterus. *By OLIVER PRESSCOTT, jun. A.M. Fellow of the Massachusetts Medical Society.*

MRS. E. aged thirty-nine, of a very ſhort ſtature, but extremely corpulent, had been married about ſeven years, during which term ſhe had been with difficulty delivered of two mature, but dead children, and ſuffered five abortions. About nine years ſince, ſhe had an inflammatory fever, ever after which ſhe was frequently troubled with a pain at her ſtomach, from which ſhe found the greateſt relief by the ſmoking of tobacco.

February 23, 1800, ſhe was taken in labour of her third child, at 10 o'clock in the evening.

24th. At 3 o'clock, A. M. Dr. W. her phyſician and accoucheur, was called upon to attend. During all this day and the following night,

night, her pains were regular and ſtrong, but effected the dilatation of the os internum to a very ſmall degree only.

25th. The pains the ſame; at 10 o'clock in the morning the membranes broke, and gave vent to a large quantity of water; the dilatation of the os internum at the ſame time did not exceed in diameter that of a piſtareen. The pains continuing without effect, Dr. P. was called upon, who viſited her at 8 o'clock this morning, and finding the head preſenting, and reſting upon the brim of the pelvis, the os internum thick and but little dilated; he having attended this patient in her firſt labour, and knowing, from the difficulties which then occurred, that the pelvis was not of the common ſtandard, but ſmall and diſtorted, and under theſe circumſtances judging it more ſafe to truſt ſtill to the operations of nature, than to attempt any extraordinary aſſiſtance, eſpecially as her pains continued ſtrong, and her ſtrength was but little exhauſted, he recommended patience, veneſection, and a cooling cathartic, and took his leave. The bleeding was not complied with, but the cathartic operated kindly, and appeared to have a good effect.

26th. The

26th. The pains and their effects much the ſame. In the evening Dr. P. was again called upon, and finding all things much in the ſame ſtate in which he had left them thirty-ſix hours before, except ſome increaſe of the pains in frequency and ſtrength, and expecting from the difficulties attending her former labours, and the preſent appearances, an unfavourable termination of the buſineſs, he recommended the calling in of Dr. H. a man of long experience; and in the interim endeavoured to ſupport the patient with LL, mild cordials and ſoothing words, carefully watching, at the ſame time, the progreſs of the labour.

27th. Dr. H. arrived at four in the morning; and finding the pains a little abated in their frequency and force, the os internum dilated to about the ſize of a crown-piece, feeling thick and ſoft during the intermiſſions, but tenſe and hard in the paroxyſms of pain, and the head of the foetus ſtill reſting upon the brim of the pelvis, he agreed in opinion, that theſe circumſtances could not juſtify an immediate attempt to deliver her by forcible means. It was therefore concluded to avail themſelves of the advantages expected to be derived from delay, and the effect of opiates exhibited the preceding evening, and to wait the vigorous return of her pains, eſpecially

cially as her ſtrength and ſpirits held out remarkably well, and there was no particular ſymptom of preſent imminent danger.

Thus ſhe continued until about 10 o'clock, A. M. when her pains were obſerved to increaſe both in frequency and force, and the os internum was found to be ſo far dilated, that her delivery was judged practicable without greatly endangering its laceration.

On conſultation it was now unanimouſly agreed, that the pains could never effect her delivery, and that, to put her ſtrength to further trial by ſtill further waiting their effects, might endanger her life, by the inflammation and mortification, which the long continued and violent preſſure of the head upon the parts might induce, although her ſtrength was not yet greatly impaired. Accordingly an immediate attempt to deliver with inſtruments was reſolved upon, and every diſpoſition made for that purpoſe. But before Dr. H. to whoſe lot it fell to operate, could be ſeated, in the midſt of a ſtrong pain, the patient ſuddenly complained that ſhe felt ſuch a ſenſation as ſhe was ſure "ſhe had never before experienced;" and being aſked where it was, ſhe clapped her hand upon the abdomen, and ſaid "it extended from the ſtomach to the pubes;" and being further

aſked,

aſked, what it reſembled? ſhe ſaid "ſhe could compare it to nothing but a violent inflammation." It ought to be remarked, that this new and extraordinary ſenſation in the abdomen ſeemed inſtantly to arreſt and ſuſpend the operation of the natural labour pain, in the midſt of it. But this new ſenſation, however, in a few ſeconds ſubſided in a conſiderable degree; and after the uſual period between her pains had elapſed, there was the appearance of another labour pain coming on, which immediately terminated like the preceding one, only in an increaſed degree of this unuſual diſtreſſing ſenſation of the abdomen; and this again, in its turn, in a great meaſure ſoon ſubſided, leaving after it a ſenſe of fulneſs and preſſure at the pit of the ſtomach, an uneaſy feeling in the abdomen, together with a ſhort, laborious reſpiration; and from this time forth till her death, ſhe never felt the leaſt ſymptom of another labour pain. But theſe laſt mentioned ſymptoms remaining, ſhe begged to be raiſed from a ſupine to a ſitting poſture, which was accordingly done: but in her tranſition from the bed to a chair, a ſmall quantity of fluid was diſcharged upon the floor, which had the appearance of blood, and much alarmed the attendants, but which upon a cloſe inſpection was found to be only a bloody water. The ſymptoms taking this ſtrange turn, the reſolu-

tion to attempt her delivery was ſuſpended, in order to inveſtigate the nature and cauſe of theſe unexpected and extraordinary occurrences. However, being placed in a chair, ſhe ſat and ſmoked ſeveral pipes of tobacco, which ſhe had been accuſtomed to do for the colic, and at length complained of drowſineſs, and was then at her own requeſt laid upon the bed, and allowed to repoſe. She ſlept quietly, except being once or twice awaked to moiſten her lips, for nearly three hours. After thus repoſing, ſhe was again raiſed into a chair. At this time a quantity of bloody water, which the aſſiſtants again took for an hemorrhage, appeared, which during her repoſe had penetrated the ſheet that was round her, and ſtained the linen upon the bed. On this account, as alſo on account of the evident marks of increaſing debility which now ſeemed to be faſt gaining upon her, ſuch as an increaſed frequency, ſmallneſs and weakneſs of the pulſe, and an exhauſted countenance, her danger was deemed imminent; and although ſhe had no pains, it was judged expedient to make a further examination, to aſcertain whether the os internum might not be ſo far relaxed as to admit the hand, in order to bring the child footling. But what muſt have been the ſurpriſe, on finding that no part of the foetus could be diſcovered by the vaginal touch! It had completely receded

ceded beyond reach, and no part of it could be felt !

A conſultation was now holden, and the ſymptoms retraced, in order to inveſtigate the cauſe of this laſt moſt extraordinary phenomenon ; and here recapitulating the leading and moſt prominent of them, led to the following concluſions :—The patient had been exerciſed with regular pains for about eighty-two hours, without the head's paſſing into the pelvis in the uſual manner, although it properly preſented : the diſtortion of the pelvis muſt have been the true cauſe of preventing its deſcent : —Furthermore, in the midſt of a ſtrong pain, this unuſual ſenſation of the abdomen took place, which inſtantly, as it were, arreſted and ſuſpended the operation of the labour pain, and finally prevented its recurrence; and directly after this unuſual ſenſation of the abdomen occurred, a diſcharge of bloody water from the vagina followed :—and laſtly, upon examination being made ſometime afterwards, it was found, that the foetus had quitted its former ſituation, and had receded completely beyond reach, ſo that no limb of it could be diſcovered. The nature of theſe ſymptoms, together with the order in which they ſucceeded one another, in conjunction with an evidently increaſed fulneſs of the abdomen in the

the epigaſtric region, (which ought to have been before mentioned) now diſpelled every ambiguity and doubt, as to the nature of the caſe, and impoſed the diſagreeable taſk, of giving a frank and unequivocal opinion, that the uterus was ruptured; that the foetus had paſſed through the breach into the cavity of the abdomen, and that it was abſolutely out of the power of art to afford her any eſſential relief. It was unanimouſly agreed to give no additional pain, by a fruitleſs attempt to deliver her, but to keep her as eaſy as poſſible, and wait the tragical event. She was, at her own requeſt, undreſſed, and put into a warm bed, and laid apparently eaſy for a while, and then a ſingultus with ſome vomiting came on, together with an increaſed difficulty of breathing, with a very quick, ſmall pulſe; and at 7, P. M. ſhe began to throw up copiouſly an atrabiliary matter, which continued to recur at ſhort intervals, with increaſed labour of reſpiration, which each puking in ſome meaſure relieved, until 13 minutes paſt 10 o'clock, P. M. being about eleven hours from the ceſſation of her pains; when, calling for the bowl in which ſhe puked, and making an effort, ſhe raiſed the matter in her throat, but being too far exhauſted to throw it out, ſhe quackled, ſunk, and expired, almoſt without a gaſp, and apparently in the calm exer-

ciſe

eiſe of her mind, and the free enjoyment of her ſenſes, till within five ſeconds of her exit. Her pulſe grew quicker and ſmaller as her diſſolution approached; and for a conſiderable time before ſhe expired, while ſhe evidently poſſeſſed her reaſon, it entirely ceaſed to be perceptible.

As the attending phyſicians had put their judgment to the iſſue, by openly giving their opinion of the nature of the caſe while ſhe was living, they aſked permiſſion to inſpect the body after her deceaſe, in order to demonſtrate to themſelves and others, the truth or error of their prediction. The requeſt was granted, and the following are the phenomena which preſented themſelves:—

Upon laying open the parietes of the abdomen, the firſt thing that preſented itſelf, was a large male foetus, entirely excluded from the uterus, lying acroſs the abdomen, its back towards the abdominal muſcles, its belly in contact with the inteſtines of its mother, its breech in the right hypocondrium, its ſhoulders inclining a little diagonally towards the left ilium, its head covered by the inteſtines, and lying in contact with the back of the mother, in the left cavity formed by the projection of the lumbar vertibrae, its face towards the right

right ilium, its occiput towards the left. This child weighed, with only the addition of a ſmall thin rag, ten pounds and three fourths of a pound. The cavity of the abdomen was about two thirds full of a bloody water, ſimilar to that diſcharged from the vagina, before mentioned. The placenta laid looſe among the inteſtines, between the body of the child, and the contracted uterus, as did alſo a quantity of coagula. The uterus was contracted to nearly the ſize of a large child's head, and lacerated. The laceration occupied its inferior and poſterior part, and extended longitudinally from within two inches of its cervix, to its greateſt tranſverſe diameter, and tranſverſely more than half way round the uterus. On laying open the uterus longitudinally, it appeared at the fundus to be about one inch and a half thick, and towards its cervix where it was not lacerated, it was leſs than a third part of that thickneſs: its veſſels were entirely emptied of blood, neither was there any thing in its cavity, except ſome portions of the membrana decidua. The right ovarium was affected with an incipient dropſy, and on being laid open, diſcharged about three ounces of pellucid water. The ſtomach contained a large quantity of black matter, ſimilar to what ſhe had vomited.

The

The impatience of the huſband of the deceaſed, and the attendants, prevented that cloſe and accurate examination and admeaſurement of the pelvis which the circumſtances of the caſe demanded. There was however obſerved a remarkable curvature of the ſpine, and projection of the upper part of the ſacrum, which formed a large cavity above in the left ſide, in which the head of the foetus was found reſting. Haſtily returning the parts into their proper ſituation, the gall bladder happening to preſent itſelf, ſome concretions were perceived therein: it was therefore diſſected, and there were found within it one hundred and fourteen gall ſtones of different ſizes, two much larger than the reſt, all weighing, after being well waſhed and dried, thirteen pennyweight, two grains. The whole quantity of bile in the cyſt did not exceed a ſmall tea-ſpoonful. The liver had no unuſual appearance, except an evident increaſe of ſize. This affection of the *veſicula fellis* was probably the cauſe of thoſe chronic pains of the ſtomach, which ſhe had termed colic, and from which ſhe had found relief by ſmoking tobacco, as has been obſerved.

Groton, Dec. 7, 1801.

ARTICLE

Article III.

A Case of Compound Dislocation *of the* Tibia, *at the ankle joint, accompanied with a fracture and loss of part of the fibula, and likewise with a fracture of the femur in two places. By* RICHARD HAZELTINE, *F.M.M.S.*

Berwick, March, 1804.

To the Massachusetts Medical Society.

Gentlemen,

It is presumed that the history of the following case will serve to display, in the most impressive manner, the wonderful powers of nature in the cure of diseases, when her efforts are unembarrassed, and properly directed—to illustrate the advantages resulting from a considerable loss of blood in cases of violent injury--and to evince the importance of compression in the healing of ulcers, and obliteration of sinuses.

July 2, 1798, I was called in great haste to visit Josiah Kate, of Parsonsfield, in this county; a young man, aged perhaps 18 or 20, who, the messenger informed me, in assisting to erect the frame of a mill, was very badly wounded. He was then about ten miles distant

tant from where I lived (Limerick.) I found him as follows:—The left foot was diſlocated at the ankle joint, outwardly, by which the tibia was protruded through a laceration of the common integuments at leaſt two or two and a half inches in length, ſo that the proceſs of that bone which conſtitutes the maleolus internus, and the greater part of the ſmooth ſurface which forms the joint with the aſtragalus, were entirely expoſed to the air. The fibula, of courſe, was broken; and it was poſitively and repeatedly declared to me by the moſt unqueſtionable witneſſes, that at the time of the accident, ſeveral ſmall pieces of ſomething which was white, and which they ſuppoſed to be bone, fell from the wound into the water over which he was ſtanding when he received the injury, and ſwam away: and it appeared clearly, after reducing the foot, that the lower end of the fibula was gone. The femur of the ſame limb was fractured in two places: the firſt fracture was about four, and the other, perhaps, about eight, inches above the centre of the rotula, when the limb was extended. From the loſs of blood which he had ſuſtained, he was faint, pale and exhauſted, and his pulſe was ſmall. The hemorrhage had abated by the time I arrived, and he did not complain much of pain, by reaſon of his being ſo enfeebled. A phyſician

had been ſent for, and came to him; and by his requeſt I was called. He had made no attempt to do any thing for him, except with a view to reſtrain the hemorrhage, and keep him as eaſy as poſſible. We immediately proceeded to prepare dreſſings in the following manner:—We made ſplints of ſoft pine, in the form of a ſpatula, ſo firm as to afford ſufficient ſupport, and ſo long as to extend from the knee to the great trochanter on the outſide of the thigh, and as high as was convenient on the inſide, and from one inch to an inch and a half in width. So many of theſe ſplints, as were ſufficient to incloſe the thigh, were quilted into a doubling of firm linen (in the manner of women's ſtays) of ſuch a length as to go round the thigh, and lap four or five inches. The ſplints were made wider at one end than the other, and the linen was cut accordingly, for the ſake of a better adaptation to the form of the thigh. We prepared nothing for the wound but lint and a common roller. We then placed him on a firm bedſtead, and under-bed, filled with ſtraw, and made flat and even as poſſible; and with proper aſſiſtance extended and replaced the foot, and applied to the wound dry lint, well duſted with flour, pulv. alum, &c. (as the blood ſtill continued to *ooze*) and confined it with a compreſs and ſingle-headed roller. We next reduced

duced the thigh in the uſual manner, and applied the above-mentioned ſplints, which we confined within two or three ſubſtantial pieces of quality, which, when doubled, were of ſufficient length to extend round the outſide of the ſplints, and admit of a ſlip-knot by paſſing one end through the doubling, and then tying. To make the whole more ſecure, a large broad ſplint, covered with tow, was applied on the outſide of the thigh, extending from the knee to the hip; and another on the inſide, extending from the knee upwards as high as was convenient; and both were confined with proper ligatures round the other dreſſings. A ſimilar ſplint was applied to the outſide of the foot and leg, and ſo fixed as to turn the bottom of the foot a little inward, with a view to cover, as much as poſſible, the denuded bone, with the ſoft parts. After having finiſhed the application of the dreſſings, with a pillow fixed under the ham we placed the limb in a bended poſition, the patient lying on his back. He was in great diſtreſs the firſt night, and ſlept but little, or none; but he gradually became eaſier, ſo as to ſleep ſome the next day and night. The blood continued to diſcharge from the wound, but in ſo ſmall a quantity, that, conſidering the ſtate of his pulſe, no danger was to be apprehended.

After

After this period I had the ſole care of him, and gave him ſuch medicines as were occaſionally neceſſary, ſuch as mild laxatives—a few doſes of opium—ſeveral portions daily of ſome cooling neutral ſalt; and applied to the injured parts, clear ſpirit, camphorated ſpirit, and ſolution of ceruſs. acetat. and particularly to the wound, nothing but the moſt ſimple dreſſings; and allowed him a light, nutritious diet.

Although the injury which he had received, and the loſs of blood which he had ſuſtained, were ſo great, yet, for the firſt two or three weeks, it appeared from his pulſe and the condition of the injured parts, that more was to be done to guard againſt exceſſive inflammation, than to remove or prevent debility; for in that courſe of time he required ſeveral doſes of ſenna and ſalts [ſulphas ſodae]* and the frequent exhibition of cooling neutral ſalts, together with a mild diet. And although the diſcharge from the wound was very conſiderable, he did not require, at any time, the uſe of the bark, elix. vitriol, or any thing of the kind; but, under the abovementioned management, he recovered as faſt as could poſſibly be expected, and in fact faſter, for

* That the adminiſtration of laxatives is preferable in ſuch caſes to the injection of enemas, muſt, I think, be obvious to every one.

for at the time of the accident it was a pretty general opinion that the limb ought to be amputated ; but the proſpects of every day warranted a more confident hope of recovery, with a decent limb of fleſh and blood, inſtead of a wooden one.

The moſt untoward circumſtance, which demanded ſpecial attention, during the abovementioned period, was the formation of a large abſceſs up and down in the direction of the fibula, extending from the foot at leaſt half way to the knee. This I opened by making a ſmall puncture with a lancet where the integuments appeared thinneſt, which was at the ſite of the outer ankle ; upon which there was a diſcharge of about a pint of pretty-well formed pus. In the further treatment of this abſceſs I purſued a courſe of practice, which I had been early taught by my preceptor in medicine to regard as a moſt important point in ſurgery ; namely, the employment of compreſſion. After making the ſmall puncture, by which the contents of the abſceſs were ſuffered gradually to diſcharge, I had recourſe to the *digitated* bandage,* and a large, oblong, compreſs

* If I miſtake not, I think I am not alone in the uſe of the word *digitated* as applied to a particular form of bandage ; and that, therefore, my meaning will be obvious, and the bandage which I ſpeak of, well known to every conſiderable medical reader.

compreſs of linen, which were applied as cloſely as poſſible without impeding the circulation of the blood. The body of the bandage was ſo long as to extend, after being doubled, from the bottom of the heel, nearly to the knee; and the digits were of ſuch length as to admit of lapping and pinning very ſecurely and aptly, not only over every part of the leg as high as it reached, but alſo over the foot and ankle-joint. It was doubled in ſuch a manner when applied, that the outſide digits covered the interſections of the inſide digits; thus making the compreſſion as uniform as poſſible.* The conſequences of this management were, that in the courſe of two or three weeks, the cavity of the abſceſs was wholly obliterated; and that ſide of the leg appeared perfectly ſound. The capacity of the ſinus decreaſed ſo rapidly upon the uſe of the compreſs and bandage, that the diſcharge became, comparatively, very ſmall in a few days.—In the mean time, the wound at the inner ankle bore a good appearance, and healed as faſt as could be expected; the fractured thigh united; and he recovered ſuch a degree of vigour, that on the 17th of Auguſt he was moved home, a diſtance of more than two miles, on a litter provided

* Two of theſe bandages were prepared, ſo that when one became foul and unfit for uſe, it was removed for the purpoſe of being cleanſed, and a clean one ſupplied its place:—Very great attention was paid to cleanlineſs.

provided for the purpoſe, and carried by ſeveral men.

From this period he required no particular attention, except what directly related to the treatment of the wound; which, although it continued gradually to heal, and diſcharge leſs and leſs, remained open about a year: But by that time, the diſcharge was, perhaps, not more than what flows from a common iſſue. In the courſe of that time the proceſs of the tibia which forms the inner ankle exfoliated, and ſo much of it came away as to weigh one drachm, apothecary's weight. Whenever the fleſh in the ulcer became too luxuriant, I employed more forcible compreſſion, or perhaps touched it once a day with a piece of cuprum vitriolat. or applied a little red precipitate, alone, or with burnt alum, forming the pulvis angelicus of Mr. Sharpe. When the diſcharge was conſiderable at any time, and perhaps attended with ſome pain, and the pulſe ſufficiently vigorous [tenſe] to warrant their exhibition, I gave active cathartics, ſuch as jalap and calomel, with a little of the pulv. gambog: and nitre, and directed him to live ſparingly. For a while, I thought proper to put him under a courſe of alteratives; which appeared to be productive of beneficial effects. Upon the whole, under a courſe of directions

the

the moſt ſimple and judicious that I was capable of giving, time and nature finally accompliſhed a cure ſo far, that his thigh became ſound and well ſhaped, though a little ſhorter than the other; the motion of his knee was nearly as natural and ſound as ever, with a pretty well ſhaped foot and leg, with ſome motion of the ankle joint. He wears a leather ſhoe, with the heel a little elevated, and makes a very decent appearance.

I conclude with a few remarks; And

1ſt. On the degree of injury.—This was ſo great, that had the patient been in the army or navy, it is not to be doubted but that the limb would have been amputated. And perhaps ſo complete a cure could not have been obtained in private practice, had not the circumſtances been very favourable. In this caſe, I had every advantage which could be derived from good nurſing, good accommodations, and a happy, amiable diſpoſition in my patient and his friends. I never ſaw or read of a caſe ſo nearly like the above, as one that is the ſubject of the fourth paper in the fifth volume of "Medical Facts and Obſervations;" and they both are calculated to evince the propriety and juſtneſs of the obſervation of a late eminent phyſician and ſurgeon of my native ſtate, viz. "that

"that he conſidered it much more honourable to cure a leg on, than to cut one off."

2d. On the loſs of blood.—I have conſtantly obſerved the moſt ſpeedy cures to follow very free diſcharges of blood in caſes of injury from external violence; and where there is no wound in ſuch caſes, I ſhould earneſtly recommend liberal evacuations by phlebotomy. The ſtate of the pulſe is the beſt directory with reſpect to the quantity neceſſary to be taken, and the operation is always warrantable when the pulſe is *tenſe* or *hard*, even although it may at the ſame time be *ſmall*.

3d. The advantages reſulting from opening abſceſſes by puncture, inſtead of a lengthy inciſion.—This practice I have purſued for ſeveral years. A hectic fever is nothing nigh ſo frequently the conſequence of puncturing an abſceſs, as opening it extenſively. Beſides, where an abſceſs is contiguous to a bone, there is much leſs danger of exfoliation in the former method of treatment, than in the latter. It appears to me more than probable, that had I opened the abſceſs in the above related caſe, by extenſive inciſion inſtead of a puncture, I ſhould have rendered the caſe abſolutely incurable, by letting the external air in upon the

bones, the ligaments, &c. already in a very inflamed ſtate.

Laſtly, The advantages derived from compreſſion.—I believe the moſt extenſive ſinuſes, after being opened by puncture, may be obliterated by the ſimple means of a compreſs and bandage properly applied, more eaſily and expeditiouſly than by any other method that can be adopted. I have ſeen very large cavities obliterated in this way, and believe ſuch means, though ſimple, will never fail, if judiciouſly employed. I am clearly of opinion that injections, in ſuch caſes, are, to ſay the leaſt of them, altogether needleſs, and generally do more harm than good.

R. HAZELTINE.

ARTICLE

Article IV.

Narrative of a Case of Preternatural Retention *of* Urine, *in consequence of external injury. By JAMES THACHER, Fellow of the Massachusetts Medical Society.*

Plymouth, June 1ſt, 1805.

To the Massachusetts Medical Society.

Gentlemen,

On the twelfth of September, 1803, Jabez Soule, in conſequence of a fall aſtride a rail fence, received an injury of the perineum; the immediate effects of which were pain, tumor, inflammation, and ſymptoms of ſtrangury, with a diſcharge of bloody urine. Theſe ſymptoms were not alleviated by bleeding, and the antiphlogiſtic courſe adopted by Dr. Fuller, of Kingſton, at whoſe houſe he was confined. In about eight days the quantity of urine was diminiſhed; and ſoon after, a preternatural retention ſupervened. The paſſage of the catheter was not at firſt much impeded, but became more and more difficult, till at length the introduction was found abſolutely impracticable. The preſſure and irritation occaſioned by the bladder being exceedingly diſtended, the muſcular coat of that viſcus

viſcus contracting, and the abdominal and other muſcles of the body ſympathiſing with it, a continual and painful propenſity to void the urine was excited, and the ſymptoms aggravated; which, together with the extreme agitation of his ſpirits, rendered the patient's condition truly diſtreſſing and deplorable.

In theſe alarming circumſtances, every practioner will perceive the indiſpenſable neceſſity of reſorting to the operation of puncturing the bladder; but ſuch are the prejudices which prevail too generally againſt the operation, that even in this deſperate caſe, the ſuggeſtion was not received with approbation; and ſo very formidable were appearances, that no one could be juſtified in prognoſticating a ſucceſsful iſſue. The patient was informed, the operation would afford him relief, and probably protract his exiſtence for a ſhort period. Doctors Hitchcock and Hayward concurring with me in opinion, the meaſure was at length acceded to. The perineum being greatly tumified from external injury, and the patient not corpulent, a puncture was made with the trocar above the pubes, and the urine evacuated. Not many days elapſed before the tumor in perineo was obſerved to increaſe; and ſuppuration enſued; the abſceſs was opened,

ed, and on introducing the probe, a ſinus of conſiderable extent was detected.

October 11th, the patient was removed from Kingſton to his own houſe in Halifax, and committed to the care of Dr. Morton. Soon after this, the abſceſs in perineo healed, and a tumor again appeared, attended with pain; and, for the firſt time ſince the operation, he experienced a propenſity to void the contents of the bladder. An inciſion being made into the tumor, a quantity of urine was diſcharged from it; and the ſinus was found to extend about four inches upwards, and to have connexion with the urethra, which had undergone a morbid change of ſtructure. At this period, a ſmall quantity of urine took its natural courſe through the urethra; but more eſcaped from the orifice in perineo; yet it was found requiſite to turn the patient on his ſide, two or three times in a day, to empty the bladder by the canula.

October 25th, our afflicted patient, greatly debilitated, was ſeized with rigors and violent pains about the region of the right kidney and parts adjacent, attended by inflammatory ſymptoms, nauſea, and conſtipated bowels; and in a few days after, the left kidney was in the ſame manner affected. His accumulated

ſufferings

ſufferings had now become almoſt inſupportable, being ſo extremely exhauſted, that an attempt to turn him, even in the gentleſt manner poſſible, produced ſuch agony, that he appeared for ſeveral hours as if expiring. This inflammatory attack terminated in a ſuppuration of the kidnies; and a conſiderable quantity of purulent matter was diſcharged through the canula. At one time, it produced a total obſtruction, which was removed by a probe; and the urine, for ſix or eight weeks, continued to be turbid and foetid. From long confinement in an horizontal poſition, and being conſtantly wet with urine diſcharged from the ulcer, a ſuperficial inflammation affected his loins; gangrene and ulceration enſued, which continued to afflict him till the month of March following.

Not long after the puncture with the trocar, the patient complained of exquiſite pain, occaſioned by the canula irritating the bottom of the bladder; but ſubſtituting one of an inch and an half in length, no inconvenience was experienced. The latter part of the time, it frequently became neceſſary to withdraw and cleanſe the canula of calculous matter, which adhered to it, and rendered its extraction painful and difficult.

About

About the 10th of December, the urine having regained its natural paſſage through the urethra, the canula was removed, and the orifice in three or four days entirely healed; but he was affected with the ulcer in perineo till the enſuing April.

During the firſt three months, his bowels were in a ſtate of conſtipation; nor had he an alvine evacuation, unleſs produced by an enema or laxative. In the abſence of inflammatory ſymptoms, the bark and wine were freely adminiſtered; which, with a proper regimen, effected his reſtoration.

In May, 1804, he was able to walk one or two miles; and is now capable of performing journies on horſe back, and labor on his farm.

JAMES THACHER.

ARTICLE

Article V.

History of a Wound of the Femoral Artery. *By JOHN C. WARREN, Fellow of the Massachusetts Medical Society.*

Boston, June 13, 1806.

To the Massachusetts Medical Society.

Gentlemen,

ON the 20th of December, 1805, Charles Simmons, a lad aged 14, attempting to leap a fence, fell upon the pickets, one of which, half an inch in thickneſs, entered the upper part of the thigh. A guſh of blood ſucceeded. He however extricated himſelf, ran acroſs the road about fifty yards, the blood pouring out in a torrent, and there he fell inanimate upon the ground. The flow of blood ceaſed. He was carried in, apparently dead, and remained ſo half an hour; at laſt was revived by ſtimulating applications, adminiſtered by Dr. Bartlett, of Roxbury, who had been called in the mean time.

The next day, when I ſaw him with Dr. Warren, ſenior, the hemorrhage had not returned. His pulſe then was ſcarcely perceptible. We examined the limb, and diſcovered an

an oblique wound, two inches long, about two and an half inches below the point where the great femoral veſſels paſs under the crural arch. It was not thought proper to puſh a probe into the wound, and diſturb the coagulum, before we had agreed what courſe to purſue.

The queſtion now was, whether to tie the femoral artery at once, or to wait and obſerve. Some of the gentlemen were of opinion, that it might be a branch of the femoral, artery, or it might be the femoral vein; or perhaps the femoral artery, fairly divided and retracted, might in this young ſubject be cloſed by a coagulum, firm enough to reſiſt the paſſage of more blood. It was impoſſible alſo at this period to ſhow the lad's friends the danger of the caſe. Compreſſes therefore were applied to the wound, with a tourniquet upon them; a firm pad was prepared, which the attendants were thoroughly inſtructed how to apply in the groin; and when the circulation became more vigorous, it was to be reſtrained by digitalis.

In three days time he had recovered ſome force. His limb was not ſwelled, and poſſeſſed the ſame temperature as the other. At this time there was no pulſation in the popliteal

artery, nor in the anterior or poſterior tibial, or poſterior fibular; though it was ſufficiently diſtinct in the correſponding arteries of the other limb. In five days, a ſlight pulſation was perceived in the popliteal. The young man now ſeemed to be going on well; yet his wound had a pale and gloſſy appearance. On the 29th we were ſuddenly called to him. The blood had burſt out, while he lay in bed, without any movement of his, as he ſaid: but this is not probable, for he was uncommonly reſtleſs. In two minutes time the compreſs was applied, and the hemorrhage reſtrained. We judged he had loſt about a pint of blood.

It was decided to cut down to the artery, and tie it. The boy was laid on a table; the tourniquet and the compreſſion in the groin were removed; when, to the ſurpriſe of all, the artery did not bleed. The limb was moved in every direction, but no blood appeared. The young man now became uneaſy and refractory; he had ſuffered ſo much from previous compreſſion, that he would ſcarcely allow the wound to be touched. At laſt, finding him unmanageable, he was put in bed, with directions to watch him carefully, and if the hemorrhage returned, to give him opium enough

enough to quiet him for the operation, and inform us immediately.

On the afternoon of the ſecond day, we were ſent for. The hemorrhage had taken place many times that day, and was ſuppreſſed by the attendants. Preparations were made to ſecure the artery by compreſſion in the groin, when neceſſary. An inciſion was made from the lower lip of the wound three inches along the inner edge of the ſartorius muſcle, and down to the wounded artery. This veſſel being laid bare at the upper angle of the wound, a probe was introduced in the courſe of the artery to ſerve as a guide in the upper part of the limb, where the artery lays deep, and difficult of acceſs. The motion of this probe diſturbed the coagulum, which covered the artery; the blood burſt out, and was very imperfectly reſtrained by compreſſion. I immediately cut from the edge of the wound upward acroſs the groin, puſhed a finger in, and turned out the great coagulated maſs; uncovered the bottom of the wound, and felt the blood pouring out, from ſome part below. The finger in the external orifice prevented the blood from eſcaping externally; and at laſt I obtained command of the artery, by puſhing the finger under it, and compreſſing it againſt the faſcia above. Secure from hemorrhage, we reflected, whether

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it would be beſt to tie the artery near its wound, or in the groin two and an half inches higher up. Influenced by Mr. J. Bell's opinion, that tying the femoral artery will not endanger the life of the limb; and ſtill more by that of Mr. Cline, that a ligature ſhould never be applied juſt below the profunda, becauſe the current of blood down the profunda diſturbs the coagulum, and forces open the adhering artery, it was reſolved to tie the veſſel in the groin.

The end of the finger which compreſſed the artery was under the ſheath of the femoral veſſels, juſt at the edge of the crural arch; the faſcia of the thigh covered the veſſels and this finger. At this point I diſſected down, through the faſcia of the thigh, the cellular membrane below, and the femoral ſheath; ſeparated the great vein and nerve from the artery, and paſſed with ſome difficulty a flexible director under the artery, which ſerved to convey a ligature. The artery was tied, and on withdrawing the compreſſing finger from the wound, we ſaw with pleaſure that no blood followed. The parts were brought together. About twelve ounces of blood were loſt in the operation: but the patient was much reduced by previous bleedings, and was therefore order-

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ed ſome wine, and as cordial a diet as he could bear.

He was eaſy after the operation. On the third day, no ſuppuration appeared; and therefore the wound was ſtimulated with ſp. terebinth. and ol olivar. The limb was become ſomewhat œdematous, though equally warm as the other; it was rubbed with the ſame compoſition. On the fifth day, a little ſuppuration appeared, and a ſmall gangrenous ſpot was ſeen on the lower part of the leg. The day following, there was extenſive ſeparation of the cuticle, partial coldneſs of the limb, ſmall pulſe, countenance collapſed. Bark, wine and aromatics were freely adminiſtered. On the ſeventh day after the operation, freſh hemorrhage; this was partially reſtrained: it recurred at intervals, and in the evening the patient died.

Next day, I went to examine the wound; but circumſtances beyond my controul, prevented an accurate inveſtigation, which might have detected ſome facts both curious and uſeful, though perhaps not perfectly novel. The femoral artery, in the upper part of the limb, was completely gangrenous for three or four inches, and two inches of the external iliac in the ſame ſtate. The ligature remained in its place;

place ; and the final hemorrhage had proceeded from an opening in the ſphacelated iliac, above the ligature. I cut out about nine inches of the artery, and carried it off, for a more minute inſpection.

When this was examined, it appeared that the femoral artery had not been fairly cut acroſs ; but the wound was lacerated, an inch long, and about a third of the artery's circumference ; its edges rough, without any appearance of the proceſs of reſtoration. This part, however, had been previouſly examined. The ligature was looſened by ulceration of the artery, and the cellular membrane included with it, ſo that it no longer made preſſure : but it had produced its effect, for the artery was then reduced to the ſize of a crow-quill. The artery, being opened above this place, was found to be filled, at the part under the ligature, with a ſubſtance, which I think was coagulated lymph. The gangrenous and diſcoloured ſtate of the parts prevents my being poſitive on this point. Above the ligature, the veſſel was lined with lymph ; but the centre of the veſſel was filled by a coagulum which was darker, and appeared to be of blood. The appearances below the ligature were ſimilar, except that the lining of coagulum extended farther, and grew thinner below. Theſe coagula

agula were then readily detached from the inner coat of the artery, and the plug of lymph which filled the veſſel, under the ligature, was drawn out with conſiderable eaſe; the paſſage was then large enough to admit the end of a probe. Circumſtances alluded to, permitted no better examination of the proceſs which had been going on.

1. On a review of the caſe, it ſeems probable that this boy would have been ſaved, if the operation had been done before the repeated hemorrhages had occurred. Theſe exhauſted the vigour of the patient, and deſtroyed the chance of reaction of the branches of the internal iliac, by which the circulation in the limb muſt be reſtored. As for the operation, the patient ſuffered little from it; nor was it, that I know of, productive of any inconvenience.

2. This caſe goes to prove, that obſtruction of the femoral artery, eſpecially above the profunda, cannot always be produced without danger to the limb. Whence it ſhould appear, that Mr. J. Bell is ſomewhat too general in his aſſertions on this ſubject.

3. When nature has been left to operate the cure, and the hemorrhage is ſuſpended, it will

will be a long time before the patient ſhould be conſidered free from danger of ſecondary hemorrhage, and before he ſhould be allowed to make the ſlighteſt movements of the limb. The bleeding is ſuſpended by a coagulum of blood fixed over the wound of the veſſel, and entering it a little way. This coagulum is ſupported by the maſs of coagulated blood, which is retained by the cellular membrane and faſcia, and other parts. The firſt named coagulum is, after a very ſhort time, covered by a layer of coagulated lymph, which is effuſed from the edges of the wound in the artery, and ſtretches over that wound, upon the coagulum of blood. The caliber of the veſſel is not fairly filled by this coagulum, ſo that the blood ſtill flows through it, and will make its way out, if by any movement the coagulum is diſturbed: wherefore there is no ſafety for the patient, till the coagulated lymph has ſecured the wound in the artery by a firm, unyielding cicatrix.

Article VI.

Some Observations on Worms *infesting the Human Body. Communicated to the Essex Southern District Medical Society, July* 1, 1806. *By JOSHUA FISHER, M.D. Vice-President of the Massachusetts Medical Society.*

THAT ſeveral ſpecies of worms are occaſionally found in the inteſtinal canal of the human body, capable not only of exiſting there, but of propagating; and that theſe worms are to be found in no other ſituation; are facts that muſt arreſt the attention, both of the phyſician and of the philoſopher.

Medicines that deſtroy worms are of two kinds—thoſe that are deleterious both to the patient and the worms, but of which the patient will bear a ſufficient quantity to deſtroy the worms, without ſuffering any material injury himſelf: ſuch are, mercury, arſenic, and ſome of the narcotics—and thoſe that are innocuous to the human body, but poiſonous to worms: ſuch are oils and tin.

Attempts have been made to account for the deſtruction of worms by oil and tin on mechanical principles: it has been ſuppoſed

that oil closes their spiracula; but these spiracula are not to be found: the fact is, oil is a poison to worms generally, and, not improbably, to every species of them. The opinion that tin kills worms by the sharpness of its points is still maintained by some physicians; they accordingly give it in large doses, and in the most pointed form. On this principle glass, coarsely pulverized, ought to be a remedy of still greater efficacy; but either of them is more likely to wound the coats of the stomach, than the worms. A few years ago I knew a man take large doses of what might be called the scrapings of tin; every dose of which produced severe spasms. Observation has convinced me, that twenty or thirty grains of tin, in fine powder, taken twice in a day, will produce as great an effect as doses that are larger, or more frequently exhibited; probably because that quantity of it is as great as the gastrick juices can dissolve, while it is passing the stomach and bowels;—and that the effect of tin, as an anthelminthic, depends very much on its being minutely divided. It seems to act the most powerfully in a state of solution: I am informed, from respectable authority, that small red wine, simmered a considerable time in a pewter vessel, that is, slightly impregnated with tin, is constantly used in some parts of Scotland, as an anthelminthic,

minthic, and with very great ſucceſs. A ſtrong ſolution of tin, that could be exhibited with ſafety, would probably prove a valuable acquiſition.

The ſpecies of worms moſt frequently found in the firſt paſſages of the human body, are, the teretes or lumbricoides, the aſcarides, and the taenia; I have met with the trichurides; but very rarely.

The teretes reſemble the common earth worm generally; but the difference is ſufficient to prove them a different ſpecies. In ſome caſes they are found to be very numerous; one thouſand and nine were diſcharged from a child in the ſpace of ten or twelve days. In common caſes the amalgam of tin never fails to kill them. I have combined the tin and quickſilver in various proportions, and added different ſubſtances to render the amalgam pulverable. The following formula is conſidered the beſt;—to five parts of melted tin, add two parts of quickſilver; mix them, and add one part of teſtaceous powder; keep the amalgam melted, and rub until the ſmalleſt parts of it diſappear: when the mixture is cold, a little additional levigating will reduce it to an impalpable powder. Let three or four drams of this powder be divided into twelve

twelve doſes, two of which are to be given in a day. This quantity will generally be ſufficient for a child; but ſometimes ſix or even twelve additional doſes will be required. If we wiſh to keep the bowels more open, a little calomel may be added. Should the ſymptoms be very ſevere, a large doſe of calomel ſhould be given; otherwiſe we may loſe the patient before the amalgam has time to operate. Sometimes we find the patient in a lethargic ſtupor, and the action of the ſtomach, of courſe, ſuſpended; at other times, the canal is in a ſtate ſo debilitated and relaxed, that the powder paſſes undiſſolved; in neither of theſe caſes will this preparation produce any effect. Worms, killed by tin, or its amalgam, are never diſcharged entire, but are either partially or wholly digeſted.

I had under my care a boy of about three years, who had the uſual ſymptoms of worms. I gave the tin to no purpoſe. In the courſe of ſix months every kind of anthelminthic was tried in vain. At length I gave him a ſcruple of calomel, and, before it operated, injected the ſmoke of tobacco till it paſſed by his mouth; during the operation of the medicine, which was very ſevere, he diſcharged one of the teretes in a ſpiral coil, like a bean vine which had twined round a ſmall twig; it was incapable

pable of being extended to a ſtraight line, and had obviouſly grown in that form. I preſume that it muſt have been lodged in the appendix vermiformis. A worm in that ſituation ſometimes, and I believe generally, proves fatal. This is the only inſtance, within my knowledge, of its being diſlodged.

The aſcarides reſide, principally, in the rectum. A briſk cathartic will remove part of them; but medicines which have to paſs through the ſtomach cannot be depended upon; anthelminthic enemas, ſuch as oil, a ſolution of ſal. marin. or ſal. mart. repeated once in a day or two, for five or ſix times, very ſeldom fail of deſtroying them.

The taenia may be deſtroyed by Fowler's mineral ſolution; for this purpoſe the patient ſhould take it, two or three times every day, in as large doſes as the ſtomach will bear; and continue the uſe of it till the worms are deſtroyed. Hitherto this remedy has not diſappointed me in a ſingle inſtance.

About ſeven years ago, a man applied to me, who, for many years, had been afflicted with the taenia, and in conſequence of it, with ſevere convulſive fits; he had conſulted phyſicians in various parts of this Continent, in Europe

rope and the Weſt-Indies, without any apparent advantage, excepting temporary relief. Soon after taking the ſolution, he voided a piece of the taenia of ten yards, and afterwards another piece of fifteen yards in length, beſides a large quantity of ſhorter pieces, and cucurbitini, or ſingle joints. After the worms were removed, his fits returned occaſionally for a year or two, but leſs frequently than before: I believe that at preſent they have left him entirely.

Worms of various kinds, and their eggs, muſt be frequently conveyed with our food into the ſtomach; there they generally periſh: in ſome few inſtances, however, they have been known to live and grow; but they have been ſuppoſed incapable of propagating, either in the alimentary canal, or any other part of the body. Perhaps the following caſe may furniſh an exception to the general rule.

A woman, of middle age, whoſe veracity was unqueſtionable, gave me the following hiſtory of her caſe. Some years before, ſhe had been attacked with a diſagreeable, painful ſenſation in the lumbar region; I preſume, from her account of the ſeat of it, that it was in the kidneys: ſoon afterwards ſhe ſuſpected that ſhe diſcharged, with the urine, ſome ſmall

ſmall worms; a careful attention confirmed her ſuſpicions: the worms, when firſt voided, kept moving in the urine, and died in about half an hour. A few weeks afterwards ſhe found, that inſtead of worms, ſhe diſcharged very ſmall winged inſects, all of which, I believe, were dead; theſe ſoon diſappeared, and with them all her complaints. Subſequent to that period, the ſame ſymptoms had recurred, two or three times every year. She gave me one or two of each kind of theſe little animals, preſerved in ſpirits. They were, I preſume, the ſame ſpecies in different ſtates. The worms were about two thirds as long as the largeſt maggots found in cheeſe; but probably not half ſo large in circumference. The flies, or gnats, appeared to be about twice as large as the winged aphides, or lice, found on cabbages; but all of them were ſo much contracted and changed, by the action of the ſpirits, that, with the naked eye, I could obtain but a very imperfect idea of them. I deferred examining them with a microſcope, hoping to obtain ſome in a better ſtate of preſervation; but in this I was diſappointed; the woman, finding that no relief was to be expected from medicine, was very unwilling even to think of ſuch a ſubject, to her, ſo very diſagreeable; and, in the mean time, thoſe that I had preſerved in a phial, by accident were thrown away. I regret very much that

I could

I could not obtain more particular information reſpecting them; it might not, indeed, be of much practical utility, but it would gratify our curioſity to know whether the ſame ſpecies could be found elſewhere; and if it could, its hiſtory might enable us to account, more ſatisfactorily, for the appearances.

Theſe worms probably proceeded, at leaſt in the firſt inſtance, from ovula, which had paſſed the ſtomach and lacteals to the kidneys. The aſcarides, indeed, ſometimes enter the urinary paſſages from without, and may be ſuppoſed capable of penetrating as far as the kidneys; but to them the ſalts of the human body are not diſagreeable; to theſe worms it was otherwiſe; it is probable that in water, the element natural to the larva of gnats, they would have lived very well; but in urine, they ſuffered, and in half an hour died.

Whether the eggs were all taken in at the ſame time, their hatching being ſuſpended to different periods, by the powers of the living body; or whether they were received at different times; or, in fine, whether thoſe diſcharged at the ſeveral ſucceſſive periods, were ſucceſſive generations, propagated within the body, I ſhall not undertake to determine.

OBSERVATIONS

ON

PHTHISIS PULMONALIS,

AND THE USE OF THE DIGITALIS PURPUREA IN THE TREATMENT OF THAT DISEASE;

WITH

PRACTICAL REMARKS ON THE USE OF THE

TEPID BATH.

BY *ISAAC RAND*, M. D. A. A. *et* S. H. SOC.

AND PRESIDENT OF THE MASSACHUSETTS MEDICAL SOCIETY.

READ AT THE REQUEST OF THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 6, 1804.

BOSTON:

PRINTED AT THE REPERTORY OFFICE.

1804.

AT a Meeting of the MASSACHUSETTS MEDICAL SOCIETY, June 6, 1804.

VOTED—

That Drs. WELSH, BARTLETT and SPOONER, be a committee to wait on the President, and return him the thanks of the Society, for his Discourse, this day read, and request a copy for the Press.

T. DANFORTH, *Recording Sec'y.*

Boston, June 7, 1804.

The Discourse read at the request of the Council of the Massachusetts Medical Society, is respectfully submitted to your disposal. *Your humble Servant,*

ISAAC RAND.

Drs. WELSH, BARTLETT and SPOONER.

OBSERVATIONS ON

PHTHISIS PULMONALIS, &c.

NO disease is more frequent or fatal than the Phthisis pulmonalis, the prevention and cure are among the desiderata in our system of medecine.

THE occurrence of it in Cities and Country is obvious to every Physician : nearly one quarter of the bills of mortality is to be attributed to this disease : and it must be acknowledged to be almost invariably fatal under the usual modes of cure.

AND we cannot but deplore its ravages the more, as it destoys those who are in the prime of life, and not often past its meridian.

THIS loss to the publick is elegantly expressed in the funeral oration of Pericles on the Athenian youth who perished in the Samian expedition, that the loss which the Commonwealth suffered by the destruction of the youth was like the loss, which the year would sustain by the destruction of the Spring.

To point out its latent and insidious, as well as the more obvious causes would require a volume.

When we consider the extent of the surface of the lungs, the organ primarily affected in this disease,* whose surface, the bronchiæ 1635 square inches, the vessicles 20,000 square inches, the whole surface of the lungs, make therefore 21,635 square inches, or 150 square feet ; equal to ten times the surface of a man's body, which at a medium, is computed at fifteen square feet.

As the whole blood of the animal incessantly passes through the lungs, by comparing the proportion, which the lungs bear to the whole body, we may make some estimate of the great difference of the velocity of the blood in each.

† It appears, that 4. 34 pounds of blood pass through the heart in a minute, and in 36. 3 minutes, a quantity equal to a middle sized man, or 160 pounds of blood, will pass through the heart : then the same quantity must also pass in the same time through the lungs, since the left auricle and ventricle, are supplied from thence with blood to be circulated through every other part of the system.

From whence it follows, that the velocity of the blood must be very much accelerated in the lungs. And when we reflect upon the very delicate structure of this organ, the number of vessels, the importance of its use, and the many accidents to which it is exposed, we shall be less surprized that so many, than that so few persons are the fatal victims of it.

Among the remedies lately introduced, the digitalis purpurea is the most prominent. I therefore will give a concise history of it, and its modus operandi, with a case or two subjoined, with cautionary hints.

* Hale's vegetable staticks, Vol. 1. page 238-39.

† Hale's hæmastaticks Vol. 2. page 63, 4, 5.

THE digitalis purpurea of Linæus has been employed in medicine since the sixteenth Century ; and in some cases of phthisis pulmonalis with permanent success ; and has been celebrated as a certain remedy, and condemned as a poison, from that period to the present time.

* THE first physicians who employed it, in pectoral complaints, are extravagant in their encomiums on it.

FUCHSIUS in his historia plantarum, to whom we are indebted for its name, was the first that introduced it into medicine ; he speaks highly of its utility in this disease. Gerard and Parkinson, two of the most celebrated older botanists extol it as an expectorant ; and Doctor Withering has given a manuscript note of Saunders, found in a copy of Parkinson's verbal, which mentions consumptions as infallibly cured by a decoction of fox glove leaves in water. Salmon in his family diet, says it is a specifick in consumptions.

BUT Ray, Boerhaave and Haller, assert its effects as generally deleterious. These discordant opinions may be accounted for, by considering that among the poor, where it was at first chiefly used, its incautious exhibition would naturally lead to this conclusion, that it was a poison ; but that when it was directed and its exhibition under the eye of an intelligent and vigilant physician, its use was attended with the most surprising effects and cures.

DOCTOR Withering, was the first, I believe, who mentions its peculiarproperty as a diuretick in dropsies ; previous to that period, it was celebrated in epilepsy and scrophula as well as consumption.

* Medical and Physical Journal, passim, voce digtialis purpurea.

We are indebted to Dr. Darwin and Sir G. Baker for many ingenious and well conducted experiments in pulmonary consumptions, evincive of its singular effects in retarding, and partially suspending the motion of the heart and arteries.

Previous to a detail of its effects in this disease, I will endeavour to give some idea of its modus operandi. Notwithstanding many physicians disdain all pretences to theory in medicine, and aver that they depend solely on facts, yet when they are requested to explain their opinion, they always shew that their practice is founded on some theory previously adopted. To theorise is to think, and that physician who thinks or theorises the most closely, and reasons analogically on diseases, will, cæteris paribus, be the best physician.

Many years since, * De Haen in his Ratio medendi, maintained, that the extremities of the arteries, in consequence of certain diseased actions, secreted pus. This opinion has been supported and proved by that accurate and successful anatomist, John Hunter.

Every physician may discover the pus, by examining the discharge from the purulent ophthalmy, psorophthalmy of newborn infants, coryza, and in many cases of the pulmonary influenza, when no ulcers exist. The purulent discharge from either of these diseases, being mixed with distilled water and vitriolick acid, by agitation they will form a homogeneous fluid. Then add caustick alkali to the mixture; the acid having a greater affinity to the alkali that to the pus, the pus will separate and by its greater gravity will subside in the fluid; while the mucus,

* Dr. De Haen Vol. 1. Chap. 2. de Puris Generatione.

with which it was blended, will continue to be intimately mixed with the water; thus the pus will be detected.

It is acknowledged that pus confined in a cyst secluded from the air is innocuous, and, except from its gravity, and pressure, excites no perturbation in the system.

The motion of the heart and lungs, although not synchronous is commensurate with each other, and an accelerated circulation of the blood is attended with a correspondent increased respiration, and a retardation of the circulations with a slower respiration; from whence it follows, that the more the circulations are retarded, the less pus is formed, either by the diseased action of the arteries or by ulcers in the bronchiæ; and the less frequent the respiration, that process is retarded and partially suspended, by which it has been ascertained that the pus is aerated by its attraction of Oxygen. The digitalis, by its action on the vital powers, promotes two important processes; it promotes the absorption of the pus before it is converted into an ichorous poison by the air, and by lessening the irritability of the heart and arteries, prevents the profuse secretion of pus. Thus these two processes mutually aid each other and prove curative.

The cautious and continued use of the digitalis will produce these effects, and often render them sufficiently permanent to effect a cure of phthisis pulmonalis.

"These changes, sometimes without any previous sickness of the stomach, will be gradually produced, although a nausea is often excited, and by a peculiar sympathy between the stomach and the heart, the pulse is retarded in consequence of nausea; and as subsequent to the retardation of the action of the heart, absorption frequently oc-

curs. It has been supposed that nausea, a diminution of arterial motion and absorption are mutually and necessarily related to each other."

The same effects have been attempted to be produced by sailing long sea-voyages, a succession of gentle emeticks and swinging, have in many instances been attended with the happiest effects, as may be seen by consulting Gilchrist on sea-voyages, Reid on the effects of emeticks in phthisis pulmonalis and Carmichael Smith's essay on swinging. Each of these remedies, by inducing nausea, vertigo, has powerfully and sometimes permanently retarded the action of the heart and lungs, promoted absorption and cured the hectick.

Mudge, in his treatise on the Catarrh, relates the case of a man, who laboured under phthisis pulmonalis, who expectorated such quantities of pus, with fever, night sweats and every concomitant of this disease, that death seemed inevitable, as the disease eluded every method of cure. However, after some time, to his surprise, the expectoration lessened, the cough subsided, his appetite and digestion increased, he acquired flesh, and was restored to his usual health. He died some time after of an acute disease, the small pox. Upon inspecting his thorax he discovered that the phthisis pulmonalis was cured by the absorption of the whole right lobe of his lungs. One side of his chest was deficient of its lobe, and that part of the trachea to which the lobe appended was closed up. In this case, we discover the curative process was conducted and finally accomplished by the absorbents removing the diseased part. The digitalis, had it been employed, might have contributed to their curative exertions.

"It has been observed, that diseased parts of the body may be removed by depriving them of all supply of blood from the arteries; and it is now known, that where this cannot with safety be attempted to so full extent, on account of the intimate connection between the parts to be removed, and such as we wished should remain, that the same effect may be produced by diminishing to a certain degree the arterial supply of the part; at the same time that we leave the action of the absorbents in full force." This is the process so completely effected by Mr. J. Hunter's scientifick operation for the cure of the popliteal aneurism, which he suggested from theory, or reasoning a priori.

By the same mode of operation of the absorbents, digitalis removes the tubercles in the lungs. When the digitalis has produced a retardation of the pulse and respiration, adequate to our wishes, and is attended with an intermission of the pulse and nausea, its use must be suspended. Upon the suggestion of Dr. Beddoes, I have experienced a partial succedaneum in a strong infusion of camomile flowers, in keeping the pulse depressed. Beddoes, Withering, Drake and Fowler have been so explicit in their direction in the use of this plant, that I would recommend them to every physician. Davy, a celebrated chymist, and who attends at the pneumatick institution, Dr. Beddoes says, is engaged in the analysis of the digitalis, and should he discover an analagous substance, it would contribute much to the future success in the treatment of consumption, and Dr. Beddoes very justly observes, that we may presume that nothing stands alone in nature. And a substance of similar effects on the

stomach and arterial system may lurk among the articles of the materia medica.

The saturated tincture of digitalis is the preparation which I have used with the most success. The powder made into pills I some time since administered, but I now prefer the tincture, as the dose can be increased or diminished by drops. I never have used the infusion. Previous to the use of the digitalis, if there is any pain in the chest, or an hæmoptysis: if the pulse is hard and the respiration difficult, and the patient not advanced in life, venesection will be necessary. A blister should be applied to the side, between the shoulders or over the sternum in the course of the mediastinum, and the bowels gently evacuated. The tincture of digitalis may be administered three or four times in a day, beginning with 12 drops and increasing each dose one drop, till the number of pulsations of the artery is diminished to 50 or 60, and continued at that number 'till the disease is removed. I have increased them to an 100, four times in a day; at night I have generally, when the cough has prevented sleep, given one grain of opium.

The haustus salinus in the intermediate time, I have experienced beneficial, cooperating with the general intention of the digitalis; all the neutral salts retard the circulations and diminish the irritability of the heart, by their action on the stomach.

The physician should pay the strictest attention to the state of the pulse, the respiration, the state of the stomach and the appetite. Should it have a very sudden effect in depressing the circulations, and inducing an intermission of the pulse, sickness at the stomach with lan-

gour and faintness, we must immediately suspend the use of it, lest sudden death ensue. The physician should see his patient, at least every day, as few persons are so conversant with the state of the pulse and respiration, as to enable them to judge of the propriety of continuing or suspending the medicine.

The late Dr. T. Bulfinch related to me the case of Mr. ——— who was afflicted with cough dyspnæa, and anasarcous swellings of the extremities; all these complaints were soon removed by the digitalis in pills, which the Doctor gave his patient every day himself; after some time from imprudence, the disease recurred and he again applied to the Doctor and requested, as it was not always in the power of the Doctor to see him and administer the medicine himself, to give him 3 or 4 dozen of the pills, assuring the Doctor that he would punctually follow his directions; the Doctor knowing his precipitancy and imprudence, with reluctance complied with his request.—In a week or ten days his complaints were again removed, but he sent for his physician, and informed him he had some new affections which, if he could remove as speedily and effectually as he had his cough, &c. he should be as well as he ever was in his life. His pulse then was very slow and intermittent, his appetite gone; he had a constant nausea and vast depression of his spirits. The Doctor directed him to omit the pills immediately. He answered he had found them so efficacious, that to accellerate his cure he had taken all of them two days before. The Doctor expostulated with him upon his imprudence in disregarding his advice, and left him with a presentment of his fate. He was found dead in his bed the next morning, his wife by his side unconscious of his fate.

This case demonstrates the very sudden and permanent effects of the digitalis on the heart and arteries.

The diet as soon as the stomach will admit of it, should consist principally of animal food and wine, and as soon as the expectoration is diminished to 2 or 3 ounces in the day, if there is no difficulty in respiration, nor pain in the chest, the bark should be given in decoction, and exercise in a carriage should be used every day.

Some time since, I attended a young lady, ætatis 20, who had lost by phthisis pulmonalis and hæmoptysis, three brothers and one sister. She had a very distressing cough, with difficult and short respiration, pains in the chest, hectick pulse and feverish paroxysms. She had an indolent tumor of the cervical glands, as large as a pigeon's egg, apparently, though slowly tending to suppuration. I could perceive a fluctuation of matter in it—a variety of medicines had been used without any benefit. I then began with the tincture of digitalis as above mentioned. I applied blisters to the sides, between the scapulæ and to the sternum in constant succession 'till the pulse was retarded to 60 or 65 pulsations in a minute. She took an 100 drops three, some times four times in a day for a fortnight. The cough lessened the expectoration decreased and her appetite increased. In this lady the digitalis after it had diminished, the frequency of the pulse from 110 to 60 and 65 produced a severe nausea with pukings; during these operations the tumor lessened and finally disappeared, her appetite increased, her strength returned, she retrieved her flesh and has been in good health nearly two years. Her diet was animal food, oysters and Madeira wine.

I will only add the case of Mr. R. Crocker, Æt. 32; by profession a founder and artist in fine brass, constitutionally healthy, but for some years since, has had an orthopnœa, and dry cough. Many months previous to his confinement in February last, he was obliged to relinquish his business. On the 29th of the month I first saw him, he was then afflicted with a severe cough, attended with a copious purulent expectoration, difficult respiration, hectick fever, night sweats, inappetency, nausea, and was emaciated to a skeleton: his legs were œdematous, pulse 100 to 110 in a minute. He supposed his case remediless, and only to gratify his friends, consulted a physician. Under all these accumulated distresses, I thought his opinion correct. With only the hope of smoothing his pillow in death, I prescribed for him. After obviating some difficulties of the bowels, I prescribed the tincture of digitalis, as above directed. The third dose of 15 drops relieved his orthopnœa, and reduced his pulse to 75 in a minute; three days after, the pulse fell to 60, then to 50 and 55. I continued to increase the drops 'till he had attained to 100 drops four times in a day, when it produced a nausea, and intermittent pulse. I then suspended the use of it for a day or two, and directed a strong infusion of camomile flowers, which obviated the disagreeable effect of the tincture. He soon returned to the use of the medicine, his pulse continued stationary 55 morning, and 60 to 65 evening 'till his recovery. When the stricture of his breast and orthopnœa were removed, to which the perpetual blisters contributed, he began to take the bark in decoction three times in a day, and opium at night. The digitalis rendered his body soluble.

His diet consisted of animal food, oysters and Madeira wine, a bottle was his daily quantity, and notwithstanding his residence was in a dirty alley, and the weather from February to the middle of May, unfriendly to his complaint, that he could not take fresh air 'till the last of April ; the expectoration gradually lessened and assumed a better colour 'till the cough and expectoration ceased the beginning of May. He has recovered his flesh and strength, and thinks himself in better health than he has enjoyed for many years. He desisted from medicine the beginning of May, his pulse is now (June 1, 1804) regular, and at 75 or 80 in a minute.

It has been observed by European physicians, and corresponds with my experience, that the small particles of stone, wood, and metals, and other hard substances inspired by the workmen, have produced this disease in the artist who works in these substances. The fine particles are often inspired into the vessicles. The absorbents not being able to remove them, they produce the nucleus of tubercles, which if medicine, or the strength of the constitution do not remove, suppurate and terminate in phthisis pulmonalis. The process is illustrated by an experiment by *Dr. Haighton, upon an animal of a class particularly exempt from consumption. He threw two drachms of quick-silver into the veins of a dog. In two days a feverishness ensued, as was apparent from the hardness and quickness of the pulse, difficulty of breathing, a cough soon succeeded. These symptoms increased 'till the death of the animal. On dissection tubercles were found in the lungs ; many of these tubercles were full of purulent matter ; and on cut-

* Saunders on the Liver.

ting open those that were still firm, a globule of mercury was discovered in the centre of each, forming the nucleus to the circumscribed inflammation or tubercle. Here it is evident, that the mercury having been delivered by the veins to the heart, and by the heart to the arteries, was by them effused into the cellular substance of the lungs, and probably into the whole body. The absorbents not being able to remove the particles from the lungs, the arteries were stimulated to secrete the matter of which tubercles consist.

THE most decisive good effects have been experienced from the use of digitalis in Hæmoptysis, Epistaxes and active hæmorrhages from the uterus. In very urgent cases, I have given twenty five drops every hour till the discharge is suppressed. In one instance of hæmoptysis in a very athlectick young man, where the discharge eluded the force of every other medicine, it reduced the pulse in eight hours, from one hundred in a minute, to fifty pulsations, and stopped the hæmorrhage.

WHILE this medicine is employed in active hæmorrhages, a total abstinence should be enjoined as well from fluids as solids, the most bland, and least irritating fluids in large quantities may, by the distention of the arterial system protract the hæmorrhage. I have given it with complete success in a case of insanity and mental derangement.

I WILL conclude my observations upon digitalis purpurea, with remarking that although I do not think with Dr. Beddoes, that it is as infallible a remedy in consumption as mercury in lues venerea, and bark in intermittents, I must acknowledge and with pleasure assert that I have cured more by this medicine than by all and every other medicine conjoined.

I SHALL add a few hints on clothing, and some observations on the warm bath. The statistical histories of Sir J. Sinclair, to the most cursory observer, furnish many interesting facts, respecting situation, temperature, clothing and diet, on the human constitution.

THE effects of thin and warm clothing are very obvious by comparing the health of the English and Dutch. Doctor Coggan, a physician of eminence in Holland, * observes that the Dutch and the English, who have resided some time in Holland, are forcibly struck with the coughs whether catarrhal or consumptive, so universally prevalent in England, in almost every season of the year. At church and at the theatre, devotion and pleasure are always interrupted, and sometimes totally destroyed by incessant coughs and expectorations; whilst in the largest assemblies in Holland, instances of a similar kind are scarcely known. This very great difference must be ascribed to the contrast observable between the two countries in the construction of their houses and peculiarities of dress. The majority of the houses in Holland even at the present day are the reverse of what we should esteem comfortable. The rooms are large and lofty, the separation betwixt the upper and lower apartments is by painted boards only, which if they were not covered by mats or carpets, would transmit the light as well as air. A gentleman who had resided many years in Canada observed that Coughs, catarrhs and consumptions were rare diseases in that climate, and that he was surprized at the incessant coughing in our Churches. He observed the air of Can-

* Beddoes on Consumption.

ada was colder than ours, and he was astonished at the thin dress of the Ladies here, so very ill adapted to ward off the inclemencies of the weather, in the Winter and Spring ; and rejoined, that the houses of the opulent and most of those in easy circumstances were lofty and well aired. The inhabitants, as soon as the leaves of the trees changed their colour in autumn, enveloped their bodies, next to their skins, in Welsh flannel ; and when they took an airing, were wrapped in furs, so that any exercise produced an agreeable glow over the whole surface of the body ; perpetual action continued and promoted Health. The ancients observed that the Gods sell all good things for Labour and Exercise.

*Two Englishmen, and Brothers, resided in Holland ; one continued the dress and manners of the English, disdaining to wear a flannel waistcoat, and braving the elements with an open breast ; he fell an early victim to his predilection for English fashions at 30. The other conformed to the Dutch mode of dress ; wore flannel waistcoat and drawers, by which he encountered the inclemency of the weather with impunity. He fished and hunted in the worst of weather, and was a stranger to colds and coughs, and enjoyed uninterrupted health till 57, when by accident he lost his life.

The warm bath is well adapted to relieve many of the effects of colds and by invigorating the whole system to ward off the catarrhs to which the valetudinarian and those disposed to consumptions are most incident.

The practice of bathing was universally adopted among the Greeks and Romans. The institution was originally

* Beddoes.

the preservation of health, but as riches and luxury increased in those nations, edifices of the most superb, sumptuous and elegant nature were erected. In the baths of the Romans, there were five apartments. The tepidarium, calidarium or laconicum, the solium, the baptisterium or Piscina, and the frigidarium. The time will only admit of a few observations on the tepidarium and solium.

It has been much agitated among the learned, whether, and how far, the writings of the ancient physicians contribute to our knowledge in the cure of diseases. Their usefulness may be inferred from this single consideration. That the mechanism of the human body, always the same, a faithful history of diseases must necessarily be one of the surest guides to the proper application of remedies. And if the diagnosticks and prognosticks be of the greatest consequence in Physick, and are only to be collected from long and accurate observation, then the histories of diseases by Hippocrates and others, who were so assiduous in their observations, so clear and exact in their descriptions, must be allowed to contain a valuable treasure of medical knowledge. They have been verified by subsequent Physicians and quoted as authorities. Opinionum commenta delet dies, naturæ judicia confirmat. *Cicero.*

Celsus is the only Roman Physician, whose work de Re medica, survived the destruction of the barbarous ages. He lived in the first Century of the Chr. Æra in the reign of Augustus. It has been disputed whether Celsus was a practitioner of Physick, or only to complete a liberal education, acquired all that was then known in Physick and Surgery. We must suppose from his very particular directions, in most cases, that he was a regular Practitioner of Physick and Surgery. His Surgery is preferable to his Physick.

Among the ancients, to whom the individual, was of so much importance to the publick, bathing was as frequent as washing among us ; every person in easy circumstances bathed once every day ; many in affluent circumstances, 5 or 6 times in a day.

The prohibition of Bathing was among the severe mortifications to which certain priests in Greece, were bound by the rigid rules of their order.—

The use of the bath came from the East into Greece, and thence into Italy, and the north of Europe. The baths were esteemed of so much importance to the health of the people ; that Princes and magisitrates procured them for the use of the publick. In the life of Augustus, it is mentioned, that Mæcenas was the first that established the warm bath at Rome. The Roman Emperours erected superb publick baths, assigned revenues to support them, appointed Slaves, *Servi balnearii*, who heated the baths ; others kept the clothes of those who bathed, a third rubbed them with oil : and all were under the inspection of certain officers, who had the charge of the baths. In many of the reigns there was no sort of constraint on account of rank or quality, all sorts of persons and sexes were admitted gratis to the baths, which the Emperors maintained at their own expense ; a largess which they gave the people on occasion of any publick rejoicing, called *balneum gratuitum*.

Often the masters of the World bathed indiscriminately with their Subjects. Titus admitted the common peopleto bath with him in the thermæ he had built; and Spartian relates that the Emperor Adrian, bathing in a croud of people, discovered an old Soldier, rubbing his back a-

gainst the Wall. Adrian who knew him, by having seen him in the service, asked him the reason of it. It is, replied the old man, because I have no servant. The Emperour immediately gave him Slaves, and a revenue sufficient to support them. Seneca, in his 86th Epistle, shews us of how great importance the Romans esteemed the tepid baths, in the time of the republick, where he observes, "what pleasure there would be in going into the baths, which a person knew to be tempered by the hand of Cato in his Edileship, or Fabius Maximus or one of the Cornelii, for this function, the most noble Ediles performed, of inspecting those places, frequented by the people, and requiring cleanliness, and a salutary temperature: not such as has lately been brought into use, in which the heat is so violent, that one would imagine a Slave convicted of some crime, were condemned to that punishment."

That the warm bath was considered both, by the Greeks as well as Romans, as corroborant, is evinced by a dialogue from Aristophanes in which one of the Characters says "I think none of the sons of the Gods ever exceeded Hercules in bodily and mental force" upon which the other asks "where didst thou ever see a cold bath dedicated to Hercules?" It is impossible to ascribe such an absurdity to the ingenious and consistent people of antiquity, as to make them consecrate to the God of strength, what they held to be so very debilitating as we do. They therefore must have esteemed the warm bath invigorating to the system, and from their constant use of it, must have been competent judges of it. They did not consider its frequent use as tending to enervate the body; they meant it in a moral, not a physical sense. Celsus, as I mentioned, must have considered the tepid bath invigo-

rating, it is evident from this passage. The valeludinarian imbecillis homo ; iturus in balneum, vitare debet, ne ante frigus aliquod experiatur, ubi in balneum venit, paulisper resistere, experique num tempora adstringuntur, et an sudor aliquis oriatur : illud si incidit, hoc non secutum est, inutile eo die balneum est : perunguendus est is leniter, et referendus ; vitandumque omnimodo frigus, et abstinentia utendum. At si temporibus integris, primum ibi, deinde alibi, sudor incipit, fovendum os aqua calida, tum in *solio* desidendum est : atque ibi quoque videndum, num sub primo contactu aquæ calidæ summa cutis inhorrescat, quod vix tamen fieri potest, si priora recte accesserunt : certum autem id signum inutile balneum est. The ancients spent some hours in the tepid bath, they were therefore accommodated with a seat, *Solium ;* therefore Celsus says, tum in Solio desidendum est, he is to to sit in the bath at his ease. And Suetonius, in the life of Augustus, mentions the Epigrams which that Prince composed in the tepid baths. The elder Pliny, while in the bath, had his Secretary at hand, to make extracts of what appeared worthy of remark.

* The English antiquarians adduce many instances, in history, of the great predilection of their ancestors to bathing ; many of their nobility had warm baths in their own houses ; and there were publick baths, to which those who could not afford these means of health, repaired. That a custom so congenial with the increasing disposition to luxury and refinement should have fallen into disuse, would afford matter of great surprise, if the cessation of Leprosy, and the introduction of lues venerea, at these periods, did not solve it. The moderns as well as the

* Strutt, quoted by Beddoes.

ancients bathed, promiscuously, in one large bath, and in the same fluid. The dread of receiving the lues venerea, by absorption, deterred many from its use; and the decrease of Leprosy finally extinguished the desire of that indulgence. The modern separate baths and clean water for each person obviate these objections. I know of no place except in Russia where they now promiscuously bathe.*

With the revival of learning in the 15th century, the Sovereign called in the aid of the priest, and converted bathing into a religious rite, and persuaded the people they could wash away their sins, and obtain absolution. Such baths were denominated baths for the soul, balnea animaria, et refrigeria animæ. I might add, that the use of Shoes and Stockings and linen Shirts, has rendered that of the bath much less necessary to cleanliness among us, than among the ancients, who knew nothing of the pleasures of clean linen, which we now esteem essential to comfort and convenience. Linen was such a luxury among the ancients, that the master of the feast furnished no napkins to his guests, and each brought his own: this custom which cannot but shock us, continued after the reign of Augustus. Martial says Hermogenes, who frequented the best company, used to filch the guests' napkins, and when for fear of his Hawk's talons, they brought none to the feast, Hermogenes contrived to purloin the table cloth. Martial, in a couplet, transmits him to immortal infamy.

> Attulerat mappam nemo dum furta timentur,
> Mantile e mensa surripit Hermogenes.

Perhaps the disuse of the bath may, in some measure, be attributed to the fashions of medicine. We have all

* Cox's travels in Russia.

of us been witnesses to the various changes that have been introduced into the practice of physick, depending not so much upon reason as Hypothesis, which is another word for fashion. Medical hypothesis and false analogies from the writings of Physicians, have caused that to be avoided upon principle, although a false one, the use of which might not in every case be so necessary as it anciently was ; and because the promiscuous use of it had sometimes been injurious. We shall be less surprised that the people in general, have neglected the bath, however salutary in its effects : when Physicians themselves are but just emerging from the false analogies of their predecessors, and some of them reverting to unbiassed observation. Physicians and Philosophers reasoning from false analogies have been induced to think, that the warm bath almost universally debilitates,and that the cold bath strengthens, in the same proportion that it recedes from warm. They have reasoned from the effects of heat upon inanimate substances, and have drawn conclusions from substances that have no affinity with each other; and because cold contracts and hardens inanimate bodies, and heat dilates, elongates and weakens them, therefore heat and cold must operate in a similar manner upon animals. The mechanical Physician,being so absorbed in considering man, as an hydraulick machine, subject to the same laws, that he forgets the animating principle ; and in his reasoning upon the animal functions, does not introduce the vital and sensitive cause. Professor Cullen asserts, and justly, that cold below 62° is sedative and debilitating. However,those who from speculation never use the tepid bath from an apprehension of its debilitating effects, will, when uniform experience convinces them of its corroborating power, I hope,change their opinion. Tissot, in his Essay on diseases of literary and sedentary people,

and diseases of people of fashion, says, "That, to persons afflicted with nervous debilitating diseases, the warm or tepid bath, used fasting, is of the greatest utility," and adds, "I have seen three patients, of this class, in a confirmed hectick, whose situation seemed desperate, yet were perfectly cured by this remedy."

Would time admit, I should adduce a cloud of evidence, in support of the corroborating effects of the warm bath, from the writings of Beddoes, Darwin, Marchard and Franks, who directed the warm bath to weakly, nervous persons, such as, instead of recovering their health, as they actually did, ought to be dissolved all together, if the warmth given to the waters had a relaxing effect.

The Author of Zoonomia says, the use of the warm bath, from 96° to 98° for half an hour, daily, for three or four months, he has known of great service to weak people, and is perhaps the least noxious of all unnatural Stimuli. And when Dr. Franklin was in England, many years since, he recommended to him the use of the tepid bath, twice a week, to prevent the too rapid access of old age, of which he then thought he felt the approach. We know the Dr. continued the use of it till his death, which would have been prevented many years, had not the cruel disease, the stone, destroyed him. Nothing can more forcibly impress the mind with the invigorating powers of the tepid bath, than its effects on persons labouring under the disease Pelagra, which is exceedingly frequent among the peasantry of Lombardy. This debility cannot be more certainly removed by any means than by the use of the tepid bath. The debility is so

great, that many patients are obliged to be carried, although the bath is not above forty paces from the Ward. Many who can walk are yet so weak, that they cannot get into the bath without help. The appearance of these people, in going in and coming out, is truly miserable. If they were not supported by the attendants, they would stagger like drunken persons. In the space of four, or at most, six weeks, which is the usual course of bathing, they are commonly so much restored, by the use of the warm bath, as to return to their friends and ordinary employments.* In fine, the warm bath from 94° to 98° by diffusing the circulations, and removing partial pressure, prevents spasms, relieves the chronick Rheumatism, and most erratick pains: and by cleansing the pores, and determining the circulations to the surface of the body, promotes the secretion of that fine fluid, that gives delicate softness and smoothness to the skin, which heighten the charms of youth and beauty; and by its invigorating effects retards the rigidity of the fibres, and the coalescence of the capillary vessels, the harbingers of old age.

* Marcard's med. and chirurg, Journal.

FINIS.

MASSACHUSETTS MEDICAL SOCIETY.

At a Statute Meeting of the Fellows of this Society, held June the 6th, 1804, the following Gentlemen were elected Counsellors for the year ensuing: Viz—

SUFFOLK.

Isaac Rand, John Jeffries, Charles Jarvis, Lemuel Hayward, Thomas Kast, John Warren, William Eustis, Thomas Welsh, Aaron Dexter, Joseph Whipple, William Spooner, John Fleet, Thomas Danforth, David Townsend, Isaac Rand, 3d.

ESSEX.

Edward A. Holyoke, Micajah Sawyer, Joshua Fisher, Thomas Kitteridge, Benjamin L. Oliver.

MIDDLESEX.

Josiah Bartlett, John Brooks, Isaac Hurd, Oliver Prescott, jun. William Gammage.

HAMPSHIRE.

Ebenezer Hunt, Henry Wells, Chauncey Brewer.

MAINE.

Daniel Coney, Nathaniel Coffin, Shirley Erving, Ammi R. Mitchell.

BRISTOL, PLYMOUTH *and* BARNSTABLE.

William Baylies.——James Thatcher, Gad Hitchcock.——Samuel Savage.

WORCESTER, BERKSHIRE *and* NORFOLK.

Israel Atherton, Oliver Fisk, D. Frink, sen.——Erastus Sargent, Timothy Childs.——Cotton Tufts, Amos Holbrook, John Bartlett.

At a Meeting of the Council the succeeding Day agreeably to Statute, the following Gentlemen were elected Officers: Viz.

JOHN WARREN, *President.*
JOSHUA FISHER, *Vice President.*
THOMAS DANFORTH, *Recording Secretary.*
JOSEPH WHIPPLE, *Corresponding Secretary.*
THOMAS KHAST, *Treasurer.*

LEMUEL HAYWARD,
THOMAS WELSH,
AARON DEXTER,
JOSIAH BARTLETT, *and*
JOSEPH WHIPPLE.
} CENSORS.

THOMAS DANFORTH, *Recording Secretary.*

MEDICAL PAPERS,

COMMUNICATED TO THE

MASSACHUSETTS MEDICAL SOCIETY.

NO. II.—PART II.

MEDICAL PAPERS.

ARTICLE I.

Observations on the LYMPHATIC DISTENTION *of the* LOWER EXTREMITIES *of Women, while in the* PUERPERAL STATE.

GENTLEMEN,

AS I cannot evince my gratitude for the honour you have done me, in electing me an Honorary Fellow of the Massachusetts Medical Society, in any way, which will be more pleasing to you, than in using my best endeavours to promote the object of your united wishes ; I have taken the liberty of laying before you, some observations on the lymphatic distention of the lower extremities of women, while in the puerperal state.

Writers on this disease have imputed it to a variety of causes, some to taking cold, others to a rheumatic affection, and others have had recourse to a dropsical disposition, to help them out in their attempts to account for it : MAURICEAU, has charged it to a reflux of the lochia upon the

part, and not a few authors have deemed it to be a metastasis lactea. In the cases I have met with, there has been no reason to suspect either of the above causes, the lochial discharge and lacteal secretions particularly, having in all been so perfectly in their natural state, both at the attack, and under the complaint, that I could not think there was a shadow of reason to support an opinion, that either of these had the smallest influence in producing the disease. When I inform you I have had five cases of this disorder under my care, one of them an amiable wife, whose sufferings were both lengthy and severe; and that to the whole of them I was very attentive, though I fear but of little use; and if at the same time you will please to recollect in how unsatisfactory a manner it has been hitherto described, how few have accounted for it rationally, or pointed out such methods of relief, as the anxiety and distress it generally occasions, ever lead the Faculty to wish to bestow; and that hitherto, speedy relief has seldom been obtained; these considerations, I doubt not, will so far interest your well known candour in my behalf, as, at least, to secure me from censure in having presumed to touch upon a disorder confessedly involved in obscurity, and on which, I fear, I have not been able to throw much additional light; but as the profession may be benefited in some degree by knowing what has been found useless, as

well as what is useful, in particular diseases, I thought the following remarks might not be wholly without their use.

There is much reason to suppose the sex must have been occasionally subject to this disease in all ages, and in every climate; but I have concluded that it is not a very frequent complaint, from having met with only five cases in nine hundred and eighty nine women I delivered while in business, in which was included every variety of circumstance, which I can any way conceive connected with the obstetric art. The first four cases happened at different seasons of the year and to women, whose circumstances agreed but in few particulars; they had all borne children before, one two, two of them three, and the fourth four children; one was twenty four, another twenty six, a third twenty seven, and the fourth thirty six years of age; in this lying in, which was followed with the disorder I mean to describe, the labour had been natural, and tolerably easy; in all of them the placenta was delivered within half an hour after the child; neither of them lost much blood, had bad after pains, or other unpleasant symptoms. The disorder made its appearance between the second and third week after delivery, at a time when they thought themselves nearly well enough to go abroad, and at a time when they had not been exposed to any error or accident whatever. They were women who had en-

joyed good health previous to delivery, and were free from any constitutional complaint ; they all suckled their children, had plenty of milk, and their children were very promising. Two of them complained on the fifteenth, one on the sixteenth, and the other on the nineteenth day, after getting to bed. Stiffness and pain in the upper part of the thigh, accompanied with a sense of lassitude and heaviness, pain in the back, groin, and labium pudendi, and thence downwards through the thigh, leg and foot, were the first symptoms; swelling soon followed in each of them, and in the course of two or three days the whole left limb was greatly enlarged, hard, exquisitely tender, and immoveable ; a considerable degree of fever, with thirst, restlessness, and loss of appetite, attended. The pain abated in some degree in the course of the first week, but the swelling and lameness continued for near three months. The pain and swelling abated first in the upper part of the thigh where it began, and finally went off in nearly the same direction in which it had come on. They all finally recovered, and have never since had the least return of their disorder, though three of them have had children since. In these cases, which were very tedious to all concerned, I tried all the various topical applications, (blisters excepted) which I then thought could have the least tendency to relieve. Internally I used nitre, antimonials, mercurials,

and bark, as symptoms appeared to require; but from the most careful attention to the effects produced by both the internal and external remedies, I am not able to say that I think any thing I did was of much service. Opiates for a time would abate the pain and procure rest; the faltering state of the powers of nature induced me to use the bark with all the patients, and I really thought the irregular remitting fever, which attended the oldest, was abated, her strength supported, and appetite mended by this medicine; but the disease in the limb was proof against both bark and opium. When they began to recover, I was as much at a loss for a cause of the change, as when they were taken down; and I believe the discovery of the one, will be the best guide to the other.

In my fifth case, in which I felt myself tenderly interested both as physician and friend, the labour was in the middle of a very cold winter; it was of the natural kind, but very severe; the delivery of the placenta was attended with much pain and great flooding, the after pains were very violent, and were followed at the end of the second day, with the most painful hæmorrhoids I had ever known. These however, by anodyne and emollient applications, were but of short continuance; from their abatement to the end of the eighth day, nothing further occurred worth mentioning; at this time, my patient appeared in a fair way to do

well, her appetite was good, bowels regular, she rested well, had plenty of milk, and was daily gaining strength ; appearances however soon began to change, she first complained towards night on the tenth day from delivery, of a sudden sense of weariness, while sitting in an easy chair, accompanied with a sensation in perinæo extending to the middle of the glutæi muscles, like what might have been expected from sitting upon a hard unyielding seat, her pulse soon quickened and she became very thirsty, with a bad taste in the mouth; she lay down expecting relief from changing her posture ; but in this she was disappointed ; the pains increased very rapidly, and every posture was alike distressing. In eight hours from the attack, the pain had extended up the inside of the pubis, and thence to the inguinal glands, which soon became greatly tumefied and so very painful and tender, as to be incapable of bearing the lightest pressure of the bedclothes; from these glands the pain in twenty four hours extended down through the thigh in the course of the principal lymphatics to the knee; from the knee, it still was confined to the lymphatics, and through them passed so rapidly to the toes, as to have disabled the whole limb in thirty six hours. In this stage of the disorder, which I think might without great impropriety be denominated the inflammatory, the pulse was seldom below a hundred and twen-

ty, and very hard ; the whole surface of the body was hot and dry, the heat of the limb was particularly increased, but the colour was as yet unchanged ; frequent discharges from the bowels now took place, and a few hours after a constant vomiting of dark coloured bile. By the use of acescent drinks and an anti-emetic mixture of succus limonum, sal absynthii : and aquæ menthæ the stomach and bowels were quieted ; and by plentiful dilution afterwards, accompanied with nitre and antimonials, the skin was opened, and a plentiful perspiration following, the heat and fever abated. I again examined the limb very carefully, and found neither change of colour nor increased size, but from the hip to the toes such tenderness and stiffness, as rendered it wholly useless ; in two days more, the pain began to abate, but in its place an enlargement at the upper part of the thigh was perceivable ; the swelling extended downwards by degrees, till the third day from its beginning, at which time the whole thigh, leg and foot, were distended in every part to three times their natural size ; the limb had a tense smooth feel, did not retain the impression of the finger, was a little hotter than the other, but had the most remarkable glossy whiteness I had ever before seen in any living subject. On the side of the tibialis anticus muscle, I could discover a slight blush of red, as if a straw dipped in raspberry juice, had been drawn

from the knee to the top of the foot ; this stripe was remarkably painful to the touch, particularly just below the middle of the muscle where is seated a large lymphatic gland. I endeavoured to contrive an easy posture for the limb, but in this and my expectations that keeping it parallel to the horizon would diminish the swelling, I was equally disappointed. From the size and stiffness of the limb, and weakness of the whole body induced by the preceding fever, pain, and evacuations, she was unable to sit up, or to afford herself the least assistance in bed. The vomiting returned again ; and from the taste in the mouth, the colour and quantity of what was brought up, I was convinced the biliary secretion was greatly increased ; the pulse again quickened, but had lost its hardness ; the skin was soft and moist ; her spirits were much depressed, and every power of nature appeared to falter ; no kind of nourishment could be taken, for every thing offered, either as food or medicine, excited nausea, such things excepted as were of the acescent kind ; oranges, lemons, and cider, alone were grateful, and I allowed them freely ; at the end of two days from the last attack of vomiting, the stomach became quiet, and could bear a little sago with orange juice, and her mind was somewhat more reconciled to her fatiguing lameness ; the limb still, however, retained its size and immobility.

Matters continued in this state for thirty four days with no change of sufficient importance to deserve attention. I now found the swelling beginning to subside at the upper part of the thigh, in the inguinal glands, and by degrees downwards to the foot. That its decline was very slow may be concluded from its having scarcely fallen to its natural size in three months; when the swelling was pretty well reduced, excepting in the foot, which continued much as it had been. At last it began to yield, and in ninety seven days from the attack motion was so far restored to the knee and ankle as to enable her to raise the limb and to place it in different postures, without assistance, but as yet it could not support the weight of the body; by degrees strength was so far restored as to enable her to hobble about the chamber, and in twelve days more she could walk in the street. Being desirous of enjoying a share of the exercise she had long wanted, she was induced to walk about a quarter of a mile; upon the approach of evening she perceived the ankle beginning to swell again, the tenderness and red stripe upon the anterior surface of the leg began to appear, and great were her apprehensions of a return of the disease, but by the immediate application of a blister to the most inflamed part it got better in a few days; and excepting some little uneasiness upon using much exercise, with a little swelling upon keeping the limb long in one

posture, it appeared to be restored to its natural and healthy state.

I shall now give in one point of view such particulars of my treatment of this tedious disorder, as appear most worthy of notice.

In the first stage of the disease the very great quantities of bile thrown upon the first passages, occasioning violent vomiting and purging, evidently required the first attention. Frequent draughts of chamomile tea to wash the stomach were first administered; and afterward an anti-emetic mixture of succus limonum, sal absinthii, L: L: and aquæ menthæ abated these symptoms. Antimonial and nitrous medicines with dilution brought on perspiration, and abated the heat and great inquietude which had occurred in the first stage of the complaint. Emolient fomentations, gentle frictions, discutient liniments, saturnine washes, lubricating ointments, were all, successively, and frequently used to the limb during the continuance of the swelling, but I am ready to acknowledge, that neither of them appeared to be of the least service: the disease appeared determined, [as the nurse expressed it] to have its course, in opposition to the many exertions I daily made to give relief. The violence of the pain at times demanded anodynes; by their use, I was always able to give a night's rest, without any bad consequences on the following day. As cider agreed better with the stomach than any drink I proposed, I allowed it

freely ; it never gave the least uneasiness, and very evidently prevented the trouble which was constantly threatened from very large quantities of bile thrown upon the stomach. Her diet consisted of sago, gruel, and occasionally a little light meat, with broths, &c. Clysters were frequently injected for the double purpose of keeping the bowels open, and to serve as a fomentation for an enlargement, hardness, and tenderness felt in the vagina, which I doubt not was an over-distended lymphatic gland. As the swelling of the limb subsided, I caused cloths wet with a cold solution of sacch : saturni to be frequently applied, with a view to restore the tone of the lately overdistended fibres ; and as often as the stomach would bear it, I gave the bark with elix: vitriol : allowing her to drink freely of water highly impregnated with fixed air. Increasing appetite, less bile, and more strength, were very evidently the effects of this plan.

For the swelling and return of inflammation in the lymphatic of the leg which were brought on by walking abroad, I applied a blister upon the most inflamed part, being now convinced of the want of efficacy of all remedies hitherto employed. The relief was so sudden and lasting, that I was much inclined to think that had blisters been applied earlier in the disease to different parts of the limb, much suffering would have been prevented, and the cure much sooner completed ; the evi-

dence in favour of this opinion appeared to me so strong, that I made up my mind to try it, should I ever again be consulted in a similar case; and I would beg leave to submit it to your judgment, whether it might not be advisable to give this application a fair trial, in a disease, acknowledged by all who have seen it, both tedious and vexatious, and which has not as yet yielded, in a short time, to any mode of treatment which has been adopted, and for which, it is generally thought, we are not yet in the possession of an adequate remedy. Perhaps the *blister* may in future be found to be the desideratum we have long wanted.

Many reasons might be adduced in favour of this practice, but as my sole motive in writing this paper, was to lay before the society a few plain facts, I shall leave reasoning upon them, to those who are better qualified to discuss this subject.

But that this disease depends upon an accumulation of lymph in the limb, and that this accumulation is dependent on causes peculiarly connected with the puerperal state, I think may be proved by the most incontestable arguments, and will, I doubt not, readily occur to every member of this society, who will give himself the trouble to reflect on the symptoms, the rise, progress and termination of this very tedious disease.

I can but lament that it has been so little in my power to throw more light on the curative indications and the best method of answering them, than I have done.

If any thing I have said, should be found to have placed the disease in the least useful point of view, to excite the attention of more judicious practitioners to endeavour to investigate its cause, nature and cure, or to support the spirits of those who are either subjects or spectators of it, it will afford me great pleasure. Some consolation arises from the considerations that this disease has seldom been known to prove fatal; and that although as yet, it cannot be immediately relieved by art, nature generally struggles through the trying conflict, and has so far as either my reading or observation has extended, generally come off completely victorious.

I am, with great respect and esteem for the members of the Massachusetts Medical Society,

Gentlemen,

Your obliged

And most humble servant,

EDWARD WYER.

ARTICLE II.

The History of a RETROVERTED UTERUS. *By* EDWARD AUGUSTUS HOLYOKE M. D.

MRS. ——— the subject of the following case is about twenty five or twenty six years of age; of a constitution rather delicate; has born two children, and since her last delivery has been

troubled with a *procidentia vaginæ*. On Saturday, June 5th, this lady was very much frightened by her sister, who with great terror and precipitation informed her that one of her neighbours was just then violently kicked by a horse. Immediately she felt "something inside of her turn over," as she expressed it, and instantly became very faint. She continued to have faint turns several times in a day for the following week, attended with frequent solicitations to discharge her urine, which she voided with difficulty ; and likewise a violent forcing when she had a stool, resembling, as she said, that which takes place in dysentery.

On the night of the next Saturday, June 12th, attempting to make water, she found she could not pass a drop, and the attempt was attended with severe pain. During the night and the next morning she was very restless, and towards noon she sent for me. I found her in great agony and anxiety, very faint, with a frequent and rather full pulse, her skin hot, and countenance very red and flushed. She complained of violent pains in the uterine and lumbar regions, and of a great desire to make water, while she had an inability to void it, and a frequent tenesmus.

These complaints she supposed to be occasioned by a "womb-colic." Having informed myself of the particulars above related, it immediately occurred to me that this was probably a case of *retroverted uterus*. Without however mentioning

my suspicions, I took from her arm twelve or fourteen ounces of blood; ordered her to drink freely of linseed tea, and to take of a mixture, in which the principal ingredient was ol: ricini, until it should produce some purgative effect.

Monday morning, June 14th, I found her rather better than I expected; but she had not had any stool, although she had taken two ounces of the oil; nor had she passed any urine voluntarily, though now and then upon moving or turning in the bed, enough of it ran from her, to afford her a great deal of ease. I now ordered an infusion of senna. In the evening I found that her bowels had been tolerably well evacuated, and that she had at several times passed a considerable quantity of urine involuntarily. By these discharges she was considerably relieved. I directed an opiate for the night.

Tuesday morning, June 15th, she had passed a pretty tolerable night. But the fulness of the abdomen had now much increased, and she had become very restless, complained of great distress, and was at intervals very faint. I now hinted to her my suspicions and informed her of the nature and danger of the case, so far as was necessary in order to obtain leave to satisfy myself by an examination. Her anxiety induced her to consent to this measure with great readiness. Upon examining in the vagina I found the *os uteri* turned high up against the *os pubis*, and the *uterus* like a

hard tumor filling the back part of the *vagina*. Upon introducing a finger into the *rectum* as soon as I had passed it beyond the *sphincter*, a tumor presented itself filling the hinder part of the *pelvis*, and pressing the *rectum* hard against the *os coccygis*. These appearances exactly corresponded with the account given of the *retroverted uterus* in the 4th and 5th volumes of the medical observations and enquiries.

I informed my patient that the case was now reduced to a certainty; that I would take off the water by a catheter and then attempt to reduce the displaced *uterus*. I placed her in a proper situation, and endeavoured to pass the catheter; but in doing it I met with an obstruction from the pressure of the *uterus* upon the *urethra* against the *os pubis*: which however was easily removed by pressing the *uterus* back with two fingers, upon which the urine immediately gushed from her and the catheter passed on to the bladder with the utmost ease. I drew off about two quarts of water, which gave her instant relief. I now caused her to kneel on a pillow placed upon the foot of the bed, and directing her to lay her head and shoulders as low as possible, I introduced my left fore-finger into the *vagina*, and the right into the *anus*, and attempted with the first to pull down the *os uteri*, and with the other to push up the *fundus*. Not succeeding in this attempt, I introduced two fingers into each orifice

and made similar efforts. The patient made great complaint of pain upon the introduction of a second finger *per anum*, and my attempts increased that pain to a great degree. I therefore desisted after some little trial, regretting that I had made any till after the bowels had been more thoroughly emptied. These attempts were made about noon. The ease procured by the catheter continued all the afternoon. In the evening I prescribed an anodyne, and directed an infusion of senna to be taken early the next morning, and as little food as possible during the next day.

Wednesday morning, 16th, she had rested tolerably well, but had passed no urine. She had taken the infusion as directed, but it had not yet operated. I left her with the intention to see her again in the afternoon, but before the time for my visit I was called to her in haste. I found her in great distress; she had not passed any urine, except a little involuntarily, had had a copious ejection in consequence of the senna, and had not taken any food during the day except a little thin gruel in the morning. The pains were now excessive, especially in the *os sacrum*.

As the bowels were now well emptied it seemed a convenient opportunity to attempt the reduction. About five o'clock therefore I drew off nearly two pints of urine which immediately relieved her as before. I then placed a board on the foot of the bed and three pillows upon it; upon

which she kneeled while her head and shoulders were placed as low as possible. I then attempted the reduction as the day before, and continued my endeavours for some time, especially *in ano*, for I found my efforts to pull down the *os uteri* were of very little consequence. In about three or four minutes however I found the *fundus uteri* give way before the fingers in the *rectum* while the *os uteri* turned down to the *os externum*, upon which my patient experienced immediate relief. She was then placed in bed, and made but little complaint. Her urine was passed voluntarily that evening.

Thursday morning, 17th; she had slept well, and passed her urine twice in the night. She still complained of some soreness and of considerable weakness in the parts. These complaints continued for three or four days; she however mended daily, and on the first of July following was in her usual health, without any threatening of abortion and able to attend to her family affairs as usual.

About the 12th of November following, I delivered her of a healthy, well grown boy, without any disagreeable accident.

ARTICLE III.

Account of the effect of a THREAD *round a* CHILD'S NECK. *By* JOHN BARTLETT, *of Roxbury.*

DEAR SIR,

THE singularity of the following case, I hope will afford apology for offering it, through you, to the Medical Society.

On the 7th of May, 1788, I was asked to visit a child two years and an half old, who had a tumour as hard and incompressible as bone, completely encircling his throat. I searched for the cause of this tumour, with as much care and attention as possible ; not suspecting from its appearance what the event shewed it to be afterwards. As scrophula I treated it for ten days without success, or the least apparent alteration. When inspecting it, on the eight day of June, I discovered a sinus, into which I introduced a director, and with my knife in its groove, carried it quite around the tumour. Upon the exposure of the muscular fibres, they appeared to be totally void of elasticity, as pale as though the body was inanimate, and neither pain nor hæmorrhage took place. I applied the pulv. cort. rub. aqua minthæ, that a discharge of laudable pus might

be brought on, if possible. On the 10th, a rigidness of the masseter muscles was evident, a diarrhœa set in, with a prodigious prostration of strength, an inability of swallowing solids, and a difficulty in fluids. I had immediate recourse to the bark, wine, and opium, as the only means of rescuing the patient from death. He took in the first twenty four hours, two drachms of the best red bark, four grains of opium, as much wine as he could take; frequent nourishing clysters, and a cordial diet were administered. On the morning of the 11th, I discovered the cause of this astonishing disease, which was a thread that had probably been worn from infancy, and in consequence of an uncommon shortness of the neck, which lay in folds, and from the very great carelessness of its parents had been left undiscovered, whilst from the natural growth of the parts it was gradually and imperceptibly buried in the adipose membrane and lodged itself upon the trachea, and the mastoid and flexor muscles; so tight was this ligature that upon its division the ends retracted an inch and an half by accurate measurement. I now thought it probable that the cause would cease to act; but was disappointed. From the 11th to the 15th the disease rapidly advanced under the above prescriptions, and on the 16th his jaws were so close, as rendered it impossible to introduce a spoon betwixt his teeth. I was now at a loss whether to con-

tinue the tonic applications or to reverse the plan. I consulted several of the faculty, and all agreed, that to desist from tonics, must prove fatal, by diminishing the excitement of the vessels.

On the 20th, a partial relaxation came on, and on the 24th was complete, and the wound was entirely healed. The diarrhœa was checked. The nervous system quieted, the appetite for food returned. And the only complaint remaining was an incapacity of eating as much as nature demanded, owing to the contracted state of the stomach from a want of solid food. But from the length of his disease, impeded respiration, and weak constitution, ulcers had begun to be formed upon his lungs, and a constant cough, dry skin, hectic heats, and night sweats put a period to his existence on the 4th of July. I obtained liberty to open the body. When the cavity of the thorax was exposed to view, my first discovery was the pericardium distended with water to a monstrous size, compressing the lungs into a much smaller space than is naturally allotted them for their action. One lobe was nearly two thirds wasted by disease, the other but little altered from its common appearance. I then passed on to the abdominal viscera. The stomach was much reduced as to its size ; to the touch it appeared as a solid mass, was incapable of containing more than a common wine glass, and was as clean as if it had been drenched in water. The

liver was much beyond its natural size ; but the other viscera appeared in a healthy state.

I am, dear Sir, yours, &c.

JOHN BARTLETT.

Dr. John Warren.

Roxbury, 1807.

ARTICLE IV.

An Account of an EXTRAVASATED TUMOUR *on the* LABIUM PUDENDI, *soon after Delivery. By the late Dr.* OSGOOD *of Andover.*

GENTLEMEN,

I TAKE the liberty to transmit to you the history of a case, frightfully alarming in its appearance, but which terminated happily. In the course of forty year's practice, which has been particularly extensive in attention to women in labour and the consequences of labours, I never met with a similar case nor ever read of one till I met with the cases related by Dr. Macbride in the 5th volume of the London Medical Observations.

March 9th, A. B. about 20 years of age, was delivered by Dr. —— of her first child. The labour was natural and easy, the child not exceeding five pounds. The doctor stayed the usual time, and when he left her, supposed her in a

very good way. But in two hours they requested his return immediately. He accordingly visited her, and found her in great distress, and upon examination discovered the left labium greatly swoln, but from what cause he could not imagine, knowing that she had not suffered any great unusual distress. Not being able to ascertain the nature or cause of her difficulties he sent for me. I visited her the next morning with him, and having examined the parts, we found the left labium distended back to the perinæum, to the size of a child's head. I immediately recollected the two cases related by Dr. Macbride and concluded this must be similar, and arose from the bursting of a blood vessel. From the favourable issue of the cases he related, I encouraged the woman and her friends, and recommended warm stupes, and a patient waiting the issue of so alarming a case. In three days the teguments burst and gave a free discharge to the contents, which was coagulated blood. The opening was large and gave a fair opportunity to have the cavity cleansed, which was effected by detergent injections. By the use of the bark and other restoratives, the parts healed, and she was soon restored to her usual health.

JOSEPH OSGOOD.

Andover, 19*th June.*

To the Mass. Medical Society.

ARTICLE V.

History of an HÆMORRHAGE *from a* RUPTURE *of the inside of the* LEFT LABIUM PUDENDI. *By the late Dr.* NATHANIEL W. APPLETON.

GENTLEMEN,

IN 5th volume of Medical Observations and Enquiries, by a society of Physicians in London, two cases are related of the rupture of the blood vessels near the vagina, producing monstrous swellings in the labia pudendi and perinæum, happening after delivery. And Dr. Osgood of Andover has communicated to this society a similar case occurring in his practice.

On 5th February, the weather being excessive cold, I was called to a labouring woman of about 40 years of age. Upon entering the room, I found the patient apparently dying; no pulse to be discovered in one wrist, and scarcely perceptible in the other. Cold sweats extended over the whole surface of her body, and she was speechless. The by-standers said that she had been flooding all the morning. I was fearful that the scene of life was near closing; however I directed some warm red wine to be given repeatedly in small doses; and as I was then attending a woman in travail, was obliged to leave her; upon my

return in about an hour, I found the woman recovering, her flesh growing warm, and her pulse returned. I then directed gruel with wine to be given often, administered an opiate, and again left my patient ; returning in a few hours, I found her better and the flooding much abated. Upon enquiry, she told me that she had strained herself the day before, in carrying a tub of water up stairs ; that she felt no inconvenience from it at bed time ; but in the morning was surprised to find herself flowing immoderately ; it not being a fortnight since her catamenia, and added that something uncommon was the mattter with her, as she had a very large swelling near the pudenda. I at first imagined an hernia had taken place ; but upon examination under the clothes the cases above referred to occurred to my mind, and upon an inspection of the parts, I found a large discoloured tumour which had the appearance of a mortification. A fissure of the skin on the inside the left labium and a large piece of coagulated blood lying at the orifice, this readily came away, a very trifling hæmorrhage ensued ; the parts were fomented with warm baths, the bowels opened, and the patient kept still, she gradually recovered, the swelling subsided, the wound healed, and in ten days she was again at her work.

Although similar cases probably do not often occur, yet it may be of practical utility to know that they sometimes do. The cases above refer-

red to as happening after delivery do not mention any hæmorrhage. But in the case which I have now communicated it was very considerable and probably produced such a deliquium as might have terminated in death, had not timely assistance been given.

I am, Gentlemen, respectfully,

Your humble servant,

NATHANIEL W. APPLETON.

ARTICLE VI.

Case of TETANUS, *from the puncture of a* TENDON *in the foot; cured by amputation, by Dr.* JOSIAH BARTLETT, *of Charlestown.*

IN the afternoon of August 31, 1793, I was called to Mr. John Goodwin aged 23, of a good constitution; by trade a carpenter. He had been unwell three days; the symptoms were alternate chills and flushes, a great prostration of strength, sickness and oppression at the stomach, a stiffness in the neck and cheeks, thirst, and a foul yellow tongue. I directed an emetic, and was coming away, when he cursorily observed, that he had hurt his foot sometime before. By the operation of the vomit, a large quantity of bile and acrimony was evacuated. About nine o'clock in the evening I was again called, and found him vio-

lently affected with spasms, commencing in his lower extremities, extending sometimes to the hips only, at others up the spine, to the neck, jaws, and adjacent parts, at which times the head was drawn backwards. He had a low irritable pulse, a weight upon the *scrobiculus cordis*, and what is called the *hippocratic countenance.* These alarming symptoms led to a particular enquiry respecting the injury in the foot ; when I found that twelve days before, he had run a nail into the base of the little toe, on the right foot, which he said penetrated three fourths of an inch. The parts were tender several days, and he had only applied the rind of pork. Convinced that his complaint was a tetanus, I gave 40 drops of liquid laudanum, and mentioned my suspicions. Doctors Danforth and Warren were immediately called, and they confirmed my opinion. After a full discussion, a removal of the wounded part was determined on, as most probable to obviate a fatal event ; and with a perfect acquiescence on the part of the patient, an operation was performed at midnight. The amputation was made upon the metatarsal bone, about two thirds of an inch from its inferior extremity ; and it appeared from an examination of the toe, that the nail had passed obliquely into the exterior tendon where there was a slight discolouration. The stump was dressed superficially, and he took 40 drops more of laudanum.

Sept. 1. He slept about three hours in the course of the night, had a better countenance, but was frequently affected with slight spasms, and the pulse was feeble and tremulous. In the forenoon he puked several times (which he attributed to the use of wine) and had several flatulent discharges by the bowels. 40 drops of laudanum were given him at noon. In the evening he complained of a stricture upon the neck of the bladder, and a retention of urine; but these complaints were relieved by fomenting the abdomen.

2d. He slept tolerably well the last night, but was frequently affected with startings. The pulse was less irritable, but he was again troubled with urinary obstructions, and felt a severe pain in the hips, back and præcordia. The laudanum was repeated, and an onion poultice applied over the os pubis, which relieved him. A bread poultice was put to the foot, to loosen the dressings and promote suppuration.

3d. He had a good night; the pulse less irritable, but quicker, with chills, a dryness of the skin, and a continuation of pain in the parts which had been affected with spasms. In the course of the day, he took several doses of elixir of camphor with snake-root tea; had a discharge from the bowels and passed urine freely.

4th. He slept comfortably the past night, the pulse was soft and regular, but he complained of a soreness in the hips and back, and had several

small discharges from the bowels. Dressed the stump, which had began to suppurate,and at evening gave 30 drops of laudanum.

5th. He slept well as usual, had no fever, the soreness had abated ; but the diarrhæa continued with pain, griping and flatulencies four days, during which time, he was twice purged with rhubarb, occasionally quieted with anodynes, and began the use of the peruvian bark.

9th. His appetite good, the first passages regular, and he had no other complaint than debility. The stump healing, and his recovery progressing rapidly.

The diet during his illness was of the restorative kind, consisting of gruels, broths, the juices of roasted, or boiled meats, with wine, brandy, &c. as his inclination directed.

I shall only add, that the gentlemen in consultation, were positive in their opinion of the disease ; and that the leading symptoms exactly corresponded with several cases of *tetanus*, which to my knowledge have arisen from wounded tendons, and terminated in death.

Charlestown, Sep. 20, 1807.

A Remarkable extra UTERINE *Case. By Dr.* GEORGE OSGOOD, *of Andover.*

To the Corresponding Secretary of the Massachusetts Medical Society.

I TAKE the freedom to transmit to you the history of a case attended with such peculiar distresses, and of a nature so rare and extraordinary, that in my opinion it ought to be preserved : and if you think best, to be made public.

A. B. of a lax and irritable habit, was married at twenty-two years of age, from which time to the expiration of two years she had two children. From the weakness of her constitution she suffered more than usual during the months of gestation, and remained both times in a weak state for two months after delivery, and was able to give suck to her children not more than five months. In the 25th year of her age, in October, 1784, she became pregnant a third time. She had no complaints in November and December but such as she had been accustomed to during the weeks of conception ; but in January, 1785, she complained of an unusual lameness in and about the loins, and particularly the left hip. This lameness gave her but little apprehension of evil, and she made no application to me till the 13th of February, when she was attacked with those pains which usually

precede an abortion. Having inquired what had befel her the preceding day (for it was evening when I was called) I was informed that she had walked hastily on the ice, and that she had been greatly alarmed by the news that two of her neighbours were thought to be dying. I supposed that these causes were sufficient with her to produce a miscarriage, unless prevented by the assistance of art. I immediately opened a vein, and, after plentiful bleeding, ordered her rest and gave her freely of opiates. These had the desired effect; and the next morning she had no complaints that threatened an abortion, but her lameness was much increased, and she complained of pain in her left side just below the short ribs, and extended to her stomach, together with some uneasiness. I recommended rest and gave her sedatives and antispasmodics.

The 20th of February, she was suddenly seized with pains in her stomach and side: I again had recourse to venesection, and gave opiates with sal succin: and after extreme pain for six hours, she fell into a swoon. Such paroxysms of distress recurred often, nor was she a day free from pain and uneasiness in her left side, frequently accompanied with excessive vomitings, and fever with costiveness. I endeavoured to give remedies according to the nature of her complaints, mild eccoprotics, antiphlogistics, and sedatives. Such were her complaints till the 13th of March, when

suddenly, without pain preceding (for her pains were generally severe before her vomitings) she vomited nearly half a pint of pus, without any warning, nor was there any mixture of food with it, though she had breakfasted but a few minutes before. Her distress was extreme immediately upon this discharge, beyond every thing she had experienced before, and accompanied with a sudden and great debility ; indeed it appeared that now the period of her sufferings was arrived, and that death would shortly close the scene. But Heaven ordained otherwise, and she was to live, to give an example how great sufferings a feeble constitution can bear. She continued to vomit through the day, though very languid, and the remaining discharges from her stomach had some sprays of pus and blood. The next day she was free from pain, but her soreness and languor were great : sore mouth, and other symptoms of a depraved state of the juices appeared ; and an unnatural heat with a weak and quick pulse gave me much uneasiness, especially as the pain in the left side returned, but not with that severity as before the purulent discharge. But there was a sensible enlargement just below the short ribs, greater than we could suppose was occasioned by the fœtus, so early in pregnancy, though the motion of the fœtus was sensibly perceived by the patient, and I could plainly distinguish its motions by applying my hand on the left side of the abdomen. The

pain, sore mouth, and fever, continued till the 13th of April, when she was attacked with nausea, but did not vomit; but a diarrhœa followed her for that day with appearances of pus mixt with the fæces. I consulted Drs. Baylies and Perry, and we fully believed that the diarrhœa was occasioned by the discharge of another abscess, as the pains in the side abated and she continued free from extreme distress the remainder of April and till the latter part of May; during which time her appetite returned, and she gained as much strength as to sit in her chair an hour at a time, though she could not stand erect nor walk without assistance, nor could she lay on her right side, and was almost every day attended with a difficulty of respiration which lasted from one to two hours, which I considered as an hysteric affection of the lungs, as she generally found relief by fœtid and carminative remedies. But as my patient was much better, and the month of June was near, we hoped that at the expiration of her pregnancy her trials would be at an end; but the month of June seemed but the beginning of her trials, for she was then confined to a bed of pain and distress, cramps and convulsions, and was never off it till the last of October. The first of June she was attacked with severe pain in her left side, and just below the sternum, accompanied with vomitings and spurious pains, resembling parturition pains, and continued every day, though not equally severe,

till the 20th of June, when her pains were such as usually attend labour, or rather were grinding pains not any wise forcing, but they continued fourteen hours very regular and severe; I frequently examined her vagina, but could make no discovery that labour was approaching. But as she had repeatedly, for twenty days, had pains similar to no purpose, and I had given opiates, I was determined to let her pains go on and only support nature, till nature being exhausted the pains almost ceased, and I then gave an opiate. She had no more pains from that time that gave me any encouragement that she would be delivered. The 24th she informed me that the last night she had no rest nor pain, but was much convulsed through the night, and said that her child was dead: I endeavoured to persuade her out of that opinion, as the want of motion for a few hours could not be an infallible symptom of the death of the fœtus; but she was not to be persuaded: I was however in a few days convinced that it was really the case, as no motion from that time was perceivable; and her breasts which had been turgid became flabby, and she was attacked with faintness, which continued an hour notwithstanding a free admission of air, and a free use of vinegar, volatiles and cordials. This faintness returned every day for three weeks, and lasted nearly the same time, and it appeared sometimes as if she would fall into a total deliqui-

um. When she was not faint she was a great part of the time in great distress, and the abdomen for sometime appeared rather to increase than lessen; but whether the enlargement was occasioned by flatulencies in the intestines, or was in consequence of the death of the fœtus, I could not determine. The 20th of July she was attacked with a uterine hæmorrhage, which was moderate and accompanied with bits of a fleshy substance, which I then considered as parts of the placenta; and as she had some slight pains in the region of the uterus, I once more hoped that a delivery might be effected, especially as the os tincæ was a little dilated. This discharge continuing for several days, with the above appearances, and no fœtor attending them, nor any further enlargement of the os tincæ, nor any pains that might be considered as parturition pains, I began to think seriously that the fœtus was not in the uterus. I wrote to Dr. Appleton, of Boston, to my honoured father at Andover, and called in the advice of Dr. Baylies, they all agreed that the fœtus was not in the uterus; and as palliatives and a supporting diet was what I had recommended for a long time, they advised the continuance of the same course.

On the 28th of July she was attacked with a distressing cramp, which was severe beyond description; the paroxysms continuing from four to eight hours, accompanied with severe convulsions. The paroxysms at first were not very

frequent; but the latter part of August and the month of September they returned almost every day, and nothing but opium and the warm bath, with frictions, gave any relief: musk, amber, and fœtid gums were tried to no purpose; and finally she was obliged to take twenty grains of opium in a day. Her disorder was so violent as to produce all the varieties of tetanos, emprosthotanos, opisthotanos, &c. and every muscle was, in turn, affected. Such was the severity of this disorder, that it appeared as if every paroxysm would put a period to her existence. But as the cold weather advanced, and the size of the abdomen lessened, these severe spasms abated; and after the 5th of October she had no paroxysms of the cramp; but flatulencies of the bowels prevailed; and, as there appeared some better prospects, I sought for some effectual means for their removal: and having lately read the history of Mrs. Low in the American Magazine printed in Boston, for 1746, and found that great benefit accrued to her from the application of the emplastrum e cymini to the whole abdominal region, I made the same application, and it afforded her relief beyond my expectations. Such for four months past had been the weakness of her digestive powers, that no solid food could be taken without exciting immediate distress; but by the middle of October she could receive an animal diet, so that by the first of December she rode

out, and in January, 1786, had a return of her menses, which were regular till January, 1788, when she became pregnant, and at the expiration of nine months was delivered of a well-grown healthy child. During this last pregnancy and labour she was as well as she ever had been when pregnant or at the time of delivery. Before her last pregnancy the tumour occasioned by the fœtus was about the size of the head of a nine-month fœtus, laying to the left of the umbilicalis extending downward to the pubes. But the first fortnight after her last delivery the tumour was mostly upon her right side, but is now, when standing, directly over the pubes. From these motions it was conjectured that the fœtus was originally in the left fallopian tube, but that the tube was burst.

She was delivered of a son in November, 1790, and another son in July, 1793, and of a daughter in January, 1796; during which time her health was better than I should have expected, nor did the tumour in her left side during her pregnancies cause greater uneasiness than in her pregnancy of 1788; nor were her sufferings greater in these several labours than was common in her labours before the tumour in 1785. After the birth of the daughter in 1796, her strength did not return as usual, and her debility was increased by an abortion the latter part of December of the same year. She had abortions every year from that time

till the present year 1802, when, on the 17th of January, she was delivered of a healthy daughter. The first months of this last pregnancy her complaints were not more than she had commonly experienced in the early stages of pregnancy. She rode several short journies, and attended to her domestic concerns. About the fifth month, as the enlargement of the uterus pushed the tumour out of the pelvis, the pain and soreness was very distressing, much more than in any preceding pregnancy (except the pregnancy, the supposed cause of the tumour in 1784 and 1785.) The uneasiness was confined to the left side, and in the place of the tumour, and every motion from within and without was distressing. These complaints lessened after the seventh month, but the general complaints of a gravid uterus were very distressing, and for two months before the birth of the child she was frequently afflicted with pains, that gave apprehensions of immediate labour. On the evening of the 16th January, labour commenced by the breaking of the membranes, but the pains were not very considerable till the morning of the 17th, when her pains, or rather distress, was constant and continued without cessation for four hours, and she was then delivered of a full-grown healthy daughter. The hæmorrhage nor pains were so great after labour as she had been accustomed to, and she had no unusual complaints till the evening of the 19th, when she discharged sev-

eral large grumous clots, then slept and awoke at four o'clock of the 20th with universal distress, and a long continued rigour, which was followed with great heat. By the timely use of sedative and antiphlogistic medicines the violent symptoms abated; but alternate chills and heat, with a tense abdomen, continued. The lochia in common quantity, and the milk appeared at the usual time, but not in usual quantity; and by the sixth day the milk was very trifling, and soon ceased. The left side of the abdomen was much enlarged and the pain and soreness distressing. The latter part of January an aphthæ appeared, and the singultus was distressing. These complaints for a few days were alarming, and threatened immediate dissolution. The 10th of February the heat abated, the aphthæ and hiccups much lessened, and her appetite better; but her strength not increased, and the rigours and paroxysms of fever were as before. February 15th she had several stools, (the first from January 17th without an enema or cathartic) and symptoms no worse till the evening, when the discharges became frequent, and, instead of fæces, uniform pus, which was extremely fœtid, and continued till 10 o'clock of the 16th, when great debility was induced, and I momentarily expected a period to her sufferings and life. After several hours of extreme languor she revived, the tumours lessened, and by the 20th she was recruited to nearly the same strength as

before the purulent discharges; the quantity of pus evacuated from the 15th to the 20th was estimated at three pints. From this time it accompanied almost every discharge of fæces, and frequently the discharges were only pus, and very offensive: her bowels were no longer constipated, her appetite better, but by no means regular; and, at all times she complained of an indescribable nauseous taste. From the first of the aphthæ she frequently vomited, and the ptyalism for three weeks was very great; nor did an aphthous state of the fæces leave her. The latter part of April she was able to sit in her chair, and with assistance walked; but her feet swelled, and her appetite lessened. May 4th and 5th, the weather being very warm, she vomited almost every thing she took, which continued till the 13th, then ceased, sore mouth came on and delirium, and she expired on the 22d.

On the 23d, Doctors Bricket, Kittredge and Pearson were called to dissect and examine the tumour, which had afflicted her for more than seventeen years, and which I supposed the cause of her death. She being a near friend I was not present at the dissection. They informed me, that the tumour extended from the navel, lying on the left side and into the pelvis. They found the uterus in a sound state as was the right fallopian tube: the left fallopian tube was very greatly enlarged and entire, and they took therefrom the bones of a

full-grown fœtus.* The tube adhered to the peritonæum from the upper edge of the os ilium for some considerable distance above. It also adhered to the colon, where there was an aperture, which was the outlet of the pus, which continued to discharge from the 15th February till her death. The tube had thickened with its enlargement and was found to be nearly half an inch in thickness; the bones of the fœtus had nearly perforated the tube in several places. The ovarium and fimbriæ were obliterated.

If the above history of so gloomy and distressing a case can be useful, I shall think my time and attention not misemployed.

GEORGE OSGOOD.

January, 1802.

The following is an Abstract of the Case referred to in the preceding Paper.

Mrs. Low had been the widow of Thomas Harridin, of Gloucester, by whom she had one child October 6, 1728; and on the 30th October, 1730, she was again taken in travail, but after the usual time of labour expired, her travail-pains ceased, and returned no more. She continued the following winter very big, and in May, 1731, went to Boston for help, had a plaister laid all

* These bones are now in the possession of the Society.

over the abdomen; soon after this her bigness was reduced, the child only remained in her (as she expressed it) very hard. There was no other sensible evacuation than a large fœtid perspiration which made her very weak, and the room extremely offensive; but gradually her strength was restored, and April 22, 1732, she had another child; in the month of March following her husband died. After a widowhood of more than three years and a half, on the 18th November, 1736, she married Mr. Joseph Low, of Gloucester, by whom she had five living well-grown children, the last of whom was born March 5, 1745: five days after this birth she was taken with fever; a plaister was applied to her navel, internal medicines were administered, and in about fourteen days her fever abated, the plaister was removed from the navel, in which there was an orifice from whence matter began to be discharged. On the 28th of April she was brought to Newbury for advice: at this time there was another opening into the abdomen; about $\frac{1}{8}$ of an inch below the former, and a substance in the abdomen, as hard as a stone, and about the bigness of a large quart bottle, and something of that form, was felt, the centre of which was in the umbilical region, through these orifices pus was daily discharged to the amount of nearly half a pound till about the middle of May, when the cranium of the fœtus was perceived, on the 9th June by opening be-

tween the two orifices the position of the cranium was discovered. On the 20th some small bones were extracted which were laying across one another much entangled. On the 24th, in presence of the Rev. JOHN LOWELL and the Doctor's two sons an incision was made, and the rest of the bones were extracted daily till the 28th, when the last was taken away and the wound stitched up. On the 2d July she expired, and on the same day upon dissection it was found, that the fœtus had lain in the left fallopian tube, which was much distended and adhered fast to the peritonœum; but clear of bones and all other matter, the right fallopian tube, ovarium and womb in perfect form and soundness. The right lobe of the lungs considerably discoloured, knotted and wasted, and the left lobe entirely consumed except the vessels and membrane, which all adhered fast to the pleura and were not separable but with a knife; the rest of the viscera sound and in good order.

Thus it seems that the fœtus had lain in the tube for sixteen years; during this time she had six children.

ARTICLE VIII.

Case of STRANGULATED CRURAL HERNIA, *operated on according to the method of* DON ANTONIO GIMBERNAT, *with some observations on the treatment of* HERNIA. *By* JOHN C. WARREN.

Read at the meeting of the Counsellors on the 4th June, 1807.

To the Counsellors of the Massachusetts Medical Society.

GENTLEMEN,

THE operation for the relief of STRANGULATED CRURAL HERNIA has been formidable to good surgeons, because not well understood. MR. POTT speaks of it with apprehension ; and the method of performing it proposed by MR. BENJAMIN BELL seems so inadequate, that it must have been a difficult affair under his hands. An accurate investigation of the anatomy of the parts concerned in it has removed those difficulties, and dispelled those apprehensions. It may now be considered comparatively safe by the surgeon, who is acquainted with the works of GIMBERNAT and HEY, and the admirable production of MR. ASTLEY COOPER, and who is also practically versed in the anatomy of the parts. As this operation has not been practised here till lately, I

have taken the liberty of laying a case of it before you, with the hope of its exciting attention to this subject.

CASE.

Mrs. C——, a lady residing fifty miles from Boston, had been affected with crural hernia sixteen years. On the 28th of January, 1807, from a slight cause, she was attacked with the symptoms of strangulation, which continued with increasing violence till the 4th of February, when I saw her. A small, quick, and weak pulse, tense abdomen, constant vomiting, and great tenderness of the diseased part indicated, that no time should be lost. Such efforts for the reduction by the taxis were made, as the sensibility of the part allowed; and, these proving ineffectual, the operation was decided on by us, and assented to by the patient.

The tumour was three inches long, and two wide; extending in the direction of the crural arch. Mrs. C—— being placed on a table three feet and an half high, the legs hanging over the end of it; an incision, four inches long, was made across the hernia, at the termination of its inner third. This exposed the fascia, very thin, and requiring cautious dissection; after which the hernial sac appeared, and was opened at its lower part without appearance of water. When the sac was dilated, a dark coloured and apparently disorganized mass was seen; and it was not without

frequent turning and examination, that it could be ascertained to be a ball of omentum enclosing a portion of intestine, which closely adhered together. These were separated with some hazard; for the adhesion was so firm, the parts so absolutely of the same colour, and the intestine so closely invested on all sides by the omentum, that a momentary inadvertence might have allowed the intestine to be opened. Small portions of omentum were left on the intestine, rather than to incur an unnecessary risk in separating them. The intestine was then examined. Although it was very livid, yet as it possessed sensibility fully sufficient to prove the existence of life, an attempt was made to return it; but the stricture was much too narrow to suffer this to succeed. The obstruction, which first presented, was formed by the *falciform process* of Mr. Burns.* When this was cut, the finger passed higher up to a stricture, produced by the internal edge of the crural arch, and the third insertion of the external oblique muscle. The tip only of the finger could be pushed into this stricture, by using a force somewhat greater than one would employ without its being indispensable. Then, the intestine being retained on the back of the finger, the curved bistory was insinuated on the fore part; the insertion of the external oblique cut toward the pubis; and, the knife being withdrawn, the fin-

* See the Edinburgh Medical and Surgical Journal for July, 1806.

ger passed into the abdomen. The intestine was then returned; but the omentum being enlarged, hardened, and conglomerated, a portion eight inches long was cut off, and a small ligature passed through the remainder, to retain the bleeding vessels at the mouth of the sac. Three ligatures were made through the skin, the wound was dressed with adhesive plaster, firm compresses, and bandage, and the patient laid in a state of ease and tranquillity, compared to that before the operation.

In two or three days some increased tension of the abdomen succeeded, and was relieved by the applications of the attending physician, Dr. S——. No other accidents occurred, and Mrs. C—— recovered a state of more perfect health than before; which she has since continued to enjoy.

OBSERVATIONS ON THE TREATMENT OF HERNIA.

As the improved modes of practice, founded on the valuable observations of the celebrated Mr. Cline, and on those of Mr. Cooper and Mr. Hey, are not yet generally diffused, I beg the favour of being allowed to add to the above detail some remarks on the treatment of hernia.

The Spanish surgeon Gimbernat tells us, it has been computed, that an eighth part of the human species is affected with hernia. So little attention has been paid to this disorder, that it is difficult to form an opinion of the proportion in

this country. It probably does not exceed one in fifty. Many suffer without suspecting it, especially females; numbers of whom, affected with a small, almost imperceptible tumour in the groin, are little aware that it constitutes a derangement, which, if neglected, may produce a painful disease and death. It is here well known, that females, supposed to be affected with *bilious colic*, have often concealed the existence of an abdominal tumour till too late, and perished miserably from a *strangulated hernia.*

The hernia, to which our attention is most commonly solicited, is the *inguinal hernia of males* in a state of strangulation. The treatment of it differs from that formerly employed. The old practices of raising the patient and shaking him by the heels, of using violent pressure to reduce the tumour, and of administering powerful cathartics, are now known to be unavailing, dangerous, and fatal. Correct anatomical and pathological views have given rise to the following methods :

1st. Let the patient affected with strangulated hernia be laid upon a bed, his head and pelvis a little raised. Let the feet be drawn toward the trunk, so as to elevate the knees, which should be in contact. The surgeon, standing on the side where the hernia lies, grasps it with one hand, makes a pressure toward the stricture, and with the thumb and a finger of the other hand moves from side to side the portion nearest to the ab-

dominal ring. This process may be gently continued for half an hour.

2d. Should the TAXIS fail, it is advisable to take away blood in sufficient quantity to cause a general relaxation of muscular action, and, at the moment this happens, to renew the taxis. Blood letting may be repeated in co-operation with the other remedies.

3d. Before the muscles recover their action, apply to the hernia ICE, or if that be not procurable, ETHER, or COLD WATER.

4th. The INJECTION *of* TOBACCO is a powerful application. This should be used with some caution. MR. COOPER relates a fatal case produced by the use of one drachm of tobacco. An empiric in this place, employing it more freely, destroyed his patient in fifteen minutes. The injection should be prepared by infusing a drachm of tobacco in a pound of boiling water for ten minutes. If the subject be of an irritable habit, half of this should be injected at first ; but if the whole quantity do not produce symptoms of relaxation, another dose should be administered. This remedy produces distress, and appears to have the inconvenience of being often expelled, before it can act upon the system. When this has happened, the addition of eighty or one hundred drops of tincture of opium has been serviceable in effecting the retention.

5th. The WARM BATH has not perhaps been often successful after the injection of tobacco had entirely failed; but it merits a trial. The temperature of the bath should be somewhat higher than that of the human body; and the space of time for bathing half an hour, which is long enough to afford all the good effects peculiar to the warm bath. The local application of cold may be conjoined.

6th. OPIUM is frequently a valuable remedy. It may be employed either merely to alleviate pain, or to effect a reduction. For the latter intention it is conveniently given, during the night, in repeated doses, while the other remedies are intermitted. In one case twenty grains taken in the course of a night produced a return of the hernia.

When these prove ineffectual, it does not seem advisable to exhaust the strength of the patient by other applications. The operation is now the only remaining resource, and to this recourse should be had, perhaps as soon as the others have been fairly tried; for although it may succeed at the end of a week, as in the case above related, yet I have seen it prove ineffectual at the end of forty-eight hours; and the disease has been known to be fatal in twenty-four hours.

After the reduction the patient should be advised to put on a TRUSS, and not to hazard the return of his complaint by relinquishing it within a

short period. It has been usual to apply the truss upon the abdominal ring only ; a practice founded on an erroneous idea of the egress of this hernia ; for it does not issue from the abdomen opposite to that ring, but comes out through a fascia two inches above the ring, descends and piercing the tendon of the external oblique, appears at the external, or abdominal ring. The place therefore, where a truss should press in common cases, is at two inches, or an inch and a half above the abdominal ring, toward the anterior superior spinous process of the ilium, or about midway between the os pubis and that process. Mr. Cline first suspected the existence of hernia above the abdominal ring, as I think, from seeing a man perish with the symptoms of strangulated hernia without an external tumour. Mr. Cooper has dissected these parts, discovered the internal ring, and perfectly demonstrated this interesting part of anatomy.

JOHN C. WARREN.

Boston, June 1st, 1807.

ARTICLE IX.

To the Massachusetts Medical Society.

Case of CALCULI *in the bladder of a boy.*

H. S. a twin-son, was born January 4, 1792. At about the age of two years, he was attacked with a distressing pain in the bladder, and difficulty in passing urine, which occurred in paroxysms, once in two or three weeks for several months, and afterwards not oftener than every second or third month, till he was ten years old; during this period he was occasionally relieved by warm bathing, diuretics and anodynes.

By the advice of different physicians he was frequently in the use of lithontriptics, of which large doses of venice soap, in the opinion of his parents, and from his own declaration, afforded more relief than any other article.

Early in March, 1802, he had a peripneumony, succeeded by a copious purulent expectoration, frequently mixed with blood, hectic fever, profuse sweats, loss of appetite, emaciation, and every appearance of pulmonary consumption, which continued till the end of April, when he began to recover. In this disease great advantage was derived from small does of calomel and opium, till the proper period for tonics and restoratives.

In June following he passed through the measles, with no unusual circumstances, but an exacerbation of his urinary complaints, which gave way to the common remedies.

Having frequently suggested to his parents the probability of a stone in the bladder, and my want of confidence in any other than palliative medicines, which they had learned to administer, I had no particular opportunity to notice his complaints. I often saw him abroad, and was astonished at his activity with his play-mates. He frequently rode on horseback, and the last season skated twenty miles in six hours on the Middlesex Canal.

On the 27th of December, 1807, he was attacked with the greatest severity, with his original complaints, every prescription heretofore used proved ineffectual, except that the warm bath, and large doses of thebiac tincture, afforded a few moments relief; his own fears and the doubts of his parents, prevented a use of the sound, and the 17th of January, 1808, terminated his sufferings.

I examined the body in the presence of Drs. Thompson and Fox. The bladder, which was of the usual dimension and not apparently diseased, contained two stones, they were hard, rough, and of the colour of lime, the weight of one was five drachms, two scruples, and seventeen grains; the other four drachms and eleven grains: laying in contact they were of the size of a pullet's egg, a convexity in the largest corresponded with a con-

cavity in the other, and these surfaces were rendered smooth by friction. The liver appeared considerably enlarged, but the other abdominal viscera were in a natural state.

On opening the thorax we discovered that the right lobe of the lungs was entirely obliterated, but the mediastinum, the left lobe of the lungs, the heart and its appendages, had no appearance of disease.

By enquiry I find, that he constantly experienced, in a greater or lesser degree, the symptoms of urinary calculus, and that after his pulmonary complaints he could not repose on his right side. His appetite and digestion were regular, he preferred animal food, and stimulating drinks (with which he was indulged) to any other regimen, and was often as much exposed to bad weather as any of his acquaintance.

From this history it seems probable that if the operation of lithotomy had been performed previous to 1802, and perhaps afterwards, the patient might have been restored; and it must be regretted, that among a variety of professional opinions, this expedient was not more seriously recommended.

But we here demonstrate an important fact, noticed in some other cases of dissection, that a pulmonary consumption may exist without destroying the subject. There can be no doubt of a total destruction of the right lobe of the lungs

six years previous to his death, and it does not appear, from a particular enquiry, that he complained of difficult respiration, or was more fatigued when he skated, as before mentiond, or from any other exertion of strength, than his twin-brother, or their associates.

JOSIAH BARTLETT.

Charlestown, February 1, 1808.

ARTICLE X.

On the vesicating properties of the POTATOE FLY. *By Dr. John Gorham. Read Feb.* 3, 1808.

IT is well known, that the only substance in common use among the physicians of this country for the purpose of raising blisters on the skin, is the cantharis, or meloe vesicatorius, a native of the countries bordering on the Mediterranean and imported into the United States, often through the medium of Great Britain. The expense attendant on this mode of procuring it is undoubtedly great, and the possibility of obtaining, at all times, a constant supply, necessarily depends on the concurrence of numerous contingent circumstances, rarely within the control of the medical practitioner. Hence the physicians of America have acknowledged the importance of cultivating a more intimate acquaintance with those indige-

nous productions, which, from the activity of their preparations, and the easy modes of acquiring them for immediate use, are capable of being substituted for foreign medicines, and, consequently, of rendering them independent of those accidents and contingencies whose occurrence, not many years since, was a source of embarrassment and even of distress to the members of the medical profession on this side the altantic. Among the small number of domestic medicines, whose active virtues have entitled them to a place in our materia medica, we may rank the Lytta Vittata, or potatoe fly, an insect, which, at certain seasons of the year, makes its appearance on the potatoe vine, and whose effects, when applied to the human system, are perfectly analogous to those of the Spanish cantharis.

The discovery of its peculiar properties was the result of accident, and it was first employed in the practice of medicine by Dr. Isaac Chapman, of Bucks-county, Pennsylvania, whose conclusions, drawn from a partial investigation of the subject, may be found in a paper published in the 2d volume of the New-York Medical Repository. In this, confining himself merely to a history of the effects, resulting from its external application, he is perfectly silent on its peculiar habits and modes of existence, and very limited in his description of its entomological characters. From this concise memoir we learn, that at the proper

season of the year it abounds in immense quantities on the potatoe plant, is easily procured and prepared for medicinal purposes, by the immersion of the vessel, in which it is confined, in hot water and its subsequent drying by exposure to heat; that the powder of this fly, when applied to the cuticle, produces irritation and the subsequent effusion of a serous fluid between that and the cutis vera, and, that in some cases slight strangury has supervened, in consequence of its partial absorption. The effects, resulting from its internal exhibition, have never been demonstrated by experiment; and he infers, only from analogy, that they are the same as follow the use of the cantharides. But though the properties of this valuable insect were thus made public, and its importance in our materia medica much enhanced by the facility with which it may be procured, it is probable that the demonstration of its activity was confined within the narrow sphere of Dr. Chapman's operations, since had it been introduced into general practice, and made an article of extensive commerce, its reputation, in the course of ten years, would, doubtless, have reached the physicians of this part of the country. Notwithstanding, however, that its existence and powerful effects have been known, for some time, to one or two medical practitioners in the interior of this State, it is only within a few days that these have been made public by its introduction into the materia medica of

the pharmacopœia of the society by the title of Lytta Vittata,* or potatoe fly. It has, for some years past, been used as a vesicatory by Dr. Israel Allen, of Stirling, and it is to this gentleman that I am indebted for my knowledge of its existence there, and for a quantity sufficient to establish its character by extensive experiment.

The natural history of this insect is still very imperfect, and the following is all the knowledge we have been able to obtain from the publication of Dr. Chapman and the verbal information of Dr. Allen. The Pennsylvanian fly "has a very near resemblance, in outward form, to the meloe (vesicatorius) alatus viridissimus nitens, antennis nigris of Linnæus, or Spanish flies, as they are commonly called, but is rather smaller than those brought from Spain and of a very different colour; the head is of a very light red, with black antennæ; the elytra or wing cases are black, margined with pale yellow, and a stripe of the same colour extends along the middle of each of them; the tarsi have five articulations, the mouth is armed with jaws and furnished with tarsi." "I found them," says Dr. Chapman, "in greatest number in potatoe patches; and when the potatoes are young they frequently devour all the green leaves; they are frequently found among beets and garden purslane, of the leaves of which they are very fond."†

* Dr. Woodhouse, of Philadelphia, has discovered other species of the Lytta. Med. Rep. vol. 3.

† Medical Repository, vol. 2. p. 174.

The fly of Massachusetts, at least in its dried state, is from four to six lines in length; its head and elytra are uniformly black, and the latter want the margin and stripe of yellow, observable in the insect of Pennsylvania. Its belly is ash-coloured and in the cavity of the abdomen, as remarked by Dr. Chapman, "is a hard, white substance, about the size of a grain of wheat, which, when powdered, appears like meal, and when rubbed with water forms a milk like emulsion." The thickness of the potatoe fly, which is nearly uniform throughout, is from one quarter to one third its length. When soaked in water, its parts may be more accurately observed, and it will be found nearly to resemble some species of the beetle, by the thickness and hardness of the coverings which protect the membranaceous wings. When recently pulverised, it exhales a faint odour, which by some has been compared with that of the powder of liquorice root, and by others to althea ointment. It generally appears on the vines about the end of July and the first week in August, and in some years, according to the account of Dr. Allen, in such abundance, that many pounds of them may be collected in a day. They inhabit the soil at the foot of the plant; they ascend in the morning and afternoon, but generally avoid the heat of the sun at noon. As they fly with great difficulty, they are easily caught; and are prepared for medicinal purposes by shaking them from the plant into hot

water, and afterwards drying them by the rays of the sun.

By the very liberal manner in which I have been supplied with these flies by Dr. Allen, I have been able to institute an extensive series of experiments, in different forms, on different persons; and they have never failed, even in a single instance, of producing all the immediate effects which I anticipated from their external application or internal exhibition. As it is unnecessary however to detail the greatest part of these, I shall confine myself to the few, which from peculiarity of constitution, or error of management, are most capable of illustrating the position we have assumed, of their efficacy.

Case 1. June, 1807. Samuel White, an invalid, about 45 years of age, has, for some time past, been subject to occasional attacks of hiccough. During one of these paroxysms, after the unsuccessful exhibition of various medicines, had a large plaster covered with the powder of Lytta Vittata applied over the region of the diaphragm. During the succeeding night the patient was very restless, and by frequent change of posture gradually moved the plaster over a great part of the abdomen; and when he awoke in the morning, found it resting on his thigh. The whole surface of the former was completely vesicated and insipient blisters were perceptible on the latter. The

hiccough was relieved though not removed. In consequence of this extensive vesication a strangury supervened, which was soon removed by opiates and mucilaginous drinks. The excoriated surfaces were dressed with the common resinous ointment and soon healed.

Case 2. June 10. Mary Wareham complained of intense pain in the head, for which blistering was prescribed. A plaster of the potatoe fly was applied, and the next day the vesication was found very perfect, accompanied with constant irritation of the part. The head-ache in a few days subsided, but the inflammation of the cutis was very considerable, continued for some days, and was succeeded by the formation of a number of boils about the size of hazlenuts, and of extreme sensibility. These at length suppurated and were finally healed by the application of the ung: resinosum cum oxide hydrargyri rubro.

Case 3. January 12, 1808. Sally Sharp came into the Almshouse for rheumatic pains, extending from the hip joint to the knee of the right leg. The pain in the last joint being most troublesome a plaster covered with powder of *cantharides* was applied to its surface and kept in that situation for twenty-four hours; she experienced no irritation on the part, and when the plaster was removed there was no vesication perceptible: it was again

spread with *cantharides* and applied as before; but no obvious effect resulted from its second application. The flies were undoubtedly in good order, since a great number of persons had been completely blistered by powder from the same parcel. A plaster of *potatoe fly* was then substituted, and the next day I found with much satisfaction that it had been followed by a complete vesication. The blister, to use the homely phrase of the patient, had run half a pint, and for a time the pains were alleviated.

If necessary I might bring forward a multitude of cases in support of the efficacy of the Lytta Vittata, but these I think are sufficient to establish the fact, that as a vesicatory they are at least equal if not superior to the cantharides usually employed for that purpose in this country. Since then they are capable, even when externally applied, of producing a very considerable irritation in the urinary organs, we should judge, à priori, that a much more positive effect would result from their internal exhibition; and accordingly, I endeavoured to ascertain the truth of the position by experiment. Having about one drachm of the flies remaining of the parcel which I first received from Dr. Allen, it was infused in about six ounces of proof spirit, and the whole was undisturbed for some weeks. The tincture therefore I presume was saturated, as the proportion of the flies was greater and the infusion longer continued than the

European pharmacopœias have ordered in the preparation of the ordinary tincture of cantharides.

Case 4. July 1807. Sarah Peirce, aged 70, was labouring under a paralysis of the neck of the bladder. Her urine passed off insensibly, and her situation rendered her uncomfortable both to herself and to others. The tincture of Lytta Vittata was prescribed in doses of ten drops twice a day, and these were gradually augmented to twenty drops three times in the twenty-four hours. In the course of a few days a slight irritation was produced in the urethra, and the power of retaining her water had gradually increased. At the end of three weeks the incontinence of urine had altogether ceased.

Case 5. J. Nelson came under my care January 25, 1808, for a gonorrhœa of long standing. His symptoms were slight irritation during the passage of urine, and a discharge of a yellowish white matter, opake and in considerable quantity. He was ordered to take fifteen drops of the tincture three times a day. On the 27th the discharge of purulent matter had increased, accompanied with much scalding immediately after the passage of urine; the dose was increased to eighteen drops three times a day. January 30th. Discharge of matter from the urethra lessened; complains of pain on making water, and of a soreness

of the fauces extending into the æsophagus. February 2. Discharge much abated, and the irritation in the urethra rather less. In consequence however of the increased soreness which was now experienced even in the stomach, the medicine was discontinued. During its exhibition the renal secretion was much greater than usual.

This tincture has been administered internally in many cases of diminished sensibility of the urinary organs, in gleets, and as a diuretic in dropsy; and it has uniformly been found in all to increase the discharge of urine, and to produce considerable degrees of irritation in the urethra and at the neck of the bladder.

It has also been applied externally as a vesicatory, and was always found to answer the purpose intended, though its effects were I think less complete than resulted from the application of the fly in substance.

From all therefore that I have been able to collect from the communication of Dr. Chapman, the verbal information of Dr. Allen, and the results of my own experiments continued for some months and made on more than fifty different cases, I think I shall be justified in drawing the following conclusions :

1. That the powder of the Lytta Vittata, or potatoe fly, when suffered to rest for some time on the cuticle, is capable of exciting inflammation and producing an effusion of a serous fluid between it and the cutis vera.

2. That the discharge in all cases is equal, and in many superior to that which results from the application of the powder of the cantharis; a remark which coincides precisely with the observations of Drs. Allen and Chapman. The superiority of the potatoe fly in this respect is doubtless owing, in some degree, to its recent preparation. The cantharides are brought from a great distance, and there is sufficient reason for believing that their active qualities, like those of other medicines, in general, are impaired by age. Hence therefore this fact may be used as an argument in favour of the general adoption of our indigenous production, since it exists among us, and may be always obtained in a comparatively recent state.

3. That the saturated tincture of this fly possesses the vesicating property of the substance, but in rather an inferior degree.

4. That both the powder and the tincture are capable of inducing strangury by their external application.

5. That the vesication by the potatoe fly is effected in a shorter time than by the cantharis.

6. That when taken internally these flies produce all the effects, apparently in the same degree, as result from the exhibition of cantharides.

7. That the inflammation and subsequent secretion of purulent matter, are in general greater from the use of the potatoe fly than of the cantharis.

ARTICLE XI.

A Case of SCIRRHOUS TESTIS *cured by Electricity.*

By MATTHIAS SPAULDING.

To the Masssachusetts Medical Society.

GENTLEMEN,

ON the 25th of October, 1806, a farmer called on me with a scirrhous testis, which he told me had been so for two years, and had become so painful, that he was obliged to lay aside labour. The diseased testis was at least four times as large as the sound one, and extremely hard. He said, that he had been under the care of a surgeon during great part of the abovementioned time, who called the disease a hydrocele. I told him, that it was a scirrhous testicle, and recommended electricity.

Two or three shocks were passed through it in different directions. They caused some pain and a considerable degree of heat in the part. Nothing further was done until the 4th of November following, when he told me, he was better. No great difference, however, could be perceived in the testis. I repeated the shocks, but made them stronger than before. On the 19th I found it considerably lessened. The shocks were repeated on the 19th, 22d, and 28th of the same month, and

on the 9th of December, when the testis was reduced nearly to the size of the other. I heard no more from him until the end of about two months, when he informed me, that he was perfectly well, and could perform his usual labour with ease.

Amherst, Aug. 16th, 1807.

Report of a Committee of the Counsellors.

THE Committee, appointed by the Counsellors of the Massachusetts Medical Society to examine and report what construction ought to be given to the last clause of the 4th section of the additional act of incorporation passed March 8th, 1803, ask leave to report—

That in the opinion of your Committee by the clause in the act above referred to, every practising physician or surgeon, residing within this Commonwealth is entitled, upon application to the Counsellors of the Massachusetts Medical Society, and signing the by-laws, to be admitted as a fellow of said society who shall possess the qualifications following:

1. He must have received of the Censors of the society, or of some district society, letters testimonial of their approbation of him as a practitioner in medicine or surgery; or he must have re-

ceived the degree of Batchelor of medicine at Harvard University.

2. He must have practised medicine or surgery for the term of three years subsequent to his receiving the approbation of the Censors or a medical degree, and in such a manner as to gain the approbation of the most competent judges.

3. He must have supported a good moral character.

That it appears to your Committee, that it belongs to the Counsellors to judge and determine whether the applicant be qualified in the manner specified in the act abovementioned.

That it ought to be incumbent on the applicant, through the recording secretary, to lay before the Counsellors satisfactory evidences of these qualifications.

Your Committee cannot undertake to specify the particular kind of evidence, which, in all cases, the applicant should be required to produce, respecting his qualifications, in the two particulars last mentioned, it ought to be the best which his situation may admit of, and in no case less than a certificate in his favour, signed by two gentlemen of respectability, of one of the learned professions, residing in or near the place or places where the applicant has practised medicine or surgery.

Your Committee beg leave, in addition hereto, to report the form of a Certificate to be given to

those fellows, who may be admitted agreeably to 4th sect. of the act before mentioned.

THIS certifies that A. B. of C. in the county of D. and Commonwealth of Massachusetts, having made application to the Counsellors of the Massachusetts Medical Society at their meeting holden at —— on the —— day of —— 18— *to be admitted into said society, and having produced to the said Counsellors satisfactory evidence of his possessing those qualifications which entitle him to an admission agreeably to a law of this Commonwealth passed March 8th,* 1803, *was then admitted, having signed the by-laws, a Fellow of the Massachusetts Medical Society, and is entitled to all the privileges and immunities thereto annexed.*

In testimony whereof I have hereunto set my hand, and caused the seal of the Corporation to be affixed at —— this —— day of —— A. D. 18—

PRESIDENT.

Recording Sec'y.

Per Order, JOSHUA FISHER.

MEDICAL INTELLIGENCE AND NOTICES.

ANALYSIS OF THE BALLTOWN MINERAL WATERS.

ALTHOUGH we hope, that so useful and able a publication as the MEDICAL REPOSITORY is generally circulated among the fellows of the society, yet it may not be improper to extract from it the following analysis, as another has been published in Boston, which seems not to have been accurate.

Dr. Seaman of New-York published in 1793 a Dissertation on the Mineral Waters of Saratoga. In this dissertation are mentioned the several experiments made; whence he drew the following conclusion, that this water contained as much *carbonic acid* as would, when separated in the form of gas, about equal its own bulk, and that in a quart of it there were also

5. 2 grains of the carbonate of soda,
31. 6 —— of the muriate of soda,
38. 0 —— of the carbonate of lime,
1. 7 —— of the carbonate of iron.

Two years afterward, viz. in 1795, Dr. Peter Vendervoort gave an account of the analysis of the mineral waters of Balltown, as made at the springs. In his treatise the several experiments

are detailed at large; from them he inferred, that one gallon contained 100. 75 grains of carbonic acid, which is about equal to its bulk when separated in the form of gas,

144. 0 grains of the muriate of soda,
133. 0 —— of the carbonate of lime,
15. 5 —— of the carbonate of iron.

Dr. Seaman is of opinion, that this water contains only an equal bulk of carbonic acid gas; while the French analysis published here made it three times its bulk, even after transportation to France.

His experiments also disagree from those made in France, in not finding either muriate of lime or muriate of magnesia; instead of which he found the carbonate of magnesia.

He concludes, that the mineral water of Ballstown contains

Carbonic acid,
Muriate of soda,
Carbonate of lime,
Carbonate of iron, and
Carbonate of magnesia.

The interest, which the Medical Society has always felt, for the safe and liberal diffusion of vaccination, has induced them to form a commission for the purpose of inquiring "Into the present state of evidence respecting the prophylactic powers of the cow-pock; and for reporting such

measures as they may find to be expedient for establishing the practice on a safe foundation ?"

The society has also directed that it shall be the duty of every member to inquire, " Whether the native cow-pock is to be discovered in the cow in this country ?" and to transmit the result of such inquiries to the corresponding secretary.

The Parmacopœia of the society has been adopted by the apothecaries in Boston and throughout the state, so far as we are informed ; and with most cordiality by the most eminent of them. There is therefore good reason to expect we shall avoid the embarrassments and dangers, which have been produced by a multitude of names and by the variations in strength of the same preparations of medicine made by different apothecaries.

The Counsellors invite those members, whose names may be omitted in the list of fellows of the society now published, to give information thereof to the corresponding secretary.

The fellows of the society are requested to transmit, as early as possible, their communications for the succeeding number of the society's publications ; as this will probably be put in order for printing, without any unnecessary delay. The by-laws of the society indicate, as subjects of

attention, the history of epidemics, accounts of births and deaths, and diaries of the weather, &c. The Counsellors will also receive, with pleasure, communications on the natural history and properties of indigenous plants, descriptions of mineral substances, histories of particular diseases, the effects of medicine and the morbid appearances after death, and anomalous cases from vaccination.

Mr. Godon, a distinguished mineralogist, has been engaged during the winter past in giving a course of lectures on mineralogy in Boston. Many gentlemen have imbibed a taste for the study of that science and now cultivate it with zeal and success. Cabinets of minerals are forming. Hence we may hope, that researches, which have been much neglected in this part of America, will soon afford us even a more accurate knowledge of its mineralogical contents, than we have of other parts of the United States.

To Mr. Godon we are indebted for the discovery of beautiful species of green and red porphyries, not inferior to the Egyptian or antique porphyry. This gentleman has ascertained the existence of very fine manganese in the town of Vergennes, in Vermont, the surface of which is mamellated and covered with brilliant crystals. The talents of Mr. Godon have been also useful in determining the working of a rich mine of iron in Vermont, and a coal mine in Rhode-Island. The latter is now opening with vigour.

Mr. Michaud, well known as the author of travels in the western country, and as son of the author of the Flora Boreali-Americana, and editor of that work, has been lately engaged in travelling through this country for the purpose of investigating the qualities of various kinds of wood, and their applications in the arts. During the last summer Mr. M. passed through the eastern states, and made many interesting observations; and we have the satisfaction to hear that his tour to the south and west has opened to him new sources of information. He proposes to publish the results of his investigations, illustrated with numerous plates, on his return to Paris.

The experiments of Mr. Davy on the Alkalies have been repeated before the Akesian and Mineralogical Societies, by Mr. Pepys, with a very large galvanic apparatus, consisting of one hundred and twenty pairs of plates of thirty six inches surface each, containing nearly seven hundred weight of copper and zinc. The solid caustic potash was used, slightly moistened by the breath. The metalloid obtained was highly inflammable, swam in rectified naptha, but was with difficulty separated from the potash, in which it is plentifully imbedded, after being exposed to the galvanic action. Water being dropped upon it, the particles explode similarly to grains of gunpowder thrown into the fire. The metalloid obtain-

ed from soda is not so highly inflammable, and can therefore be collected more easily. A globule, about the size of a small tare, being thrown on paper moistened, instantly became apparently red hot, and running off the surface of the water, fell luminously through the air. Mr. Allen has also repeated the experiments of Mr. Davy, and obtained both the mettalloids by four troughs of fifty pairs, each of sixteen inches surface.

(Med. and Phys. Journal.)

A complete mammoth has lately been found (though not alive) in a state of perfect perservation, on the borders of the Frozen ocean. It was discovered by Schoumachoff, a Tungoose chief, in the autumn of 1799, in the midst of a rock of ice; but it was not till the fifth year after finding it, that the ice had melted sufficiently to disengage the mammoth, when it fell over on its side on a bank of sand. Schoumachoff then cut off the tusks, which he bartered for goods with a Russian merchant to the value of fifty rubles, (eleven pounds five shillings.) He then left the carcase to be devoured by bears and wolves; previously to which, he had a rude drawing made of it, which represents it with pointed ears, very small eyes, horses' hoofs, and a bristly mane, extending along the whole of its back. In 1806, Mr. Michael Adams, of Petersburgh, hearing of the circumstance, repaired to the spot, where he found the

skeleton entire, one of the fore feet excepted, though nearly stripped of its flesh. The vertebræ, from the head to the os coccygis, one of the shoulder blades, the pelvis, and the remaining three extremities, were still firmly held together by the ligatures of the joints, and by strips of skin and flesh. The head was covered with a dry skin. One of the ears, well preserved, was furnished with a tuft of bristles. These parts could not avoid receiving some injury, during their removal to Petersburgh, a distance of 6875 miles; the eyes, however, are preserved, and the pupil of the left eye is still distinguishable. The tip of the under lip was eaten away, and the upper being destroyed, the teeth were exposed. The brain, still within the cranium, appeared quite dry. The parts least damaged were one of the fore feet and one of the hind; these were still covered with skin, and had the sole attached to them. According to the Tungoose chief, the animal was so corpulent and well fed, that its body hung down below the knee joints. It was a male, but had neither tail nor trunk. From the structure of the os coccygis, however, Mr. Adams is persuaded it had a thick short tail. Schoumachoff always persisted in asserting, that he never saw any appearance of a proboscis; and it does not appear probable that his rude draughtsman would have omitted such a striking feature, if there had been one. The skin (three fourths of which are in the

possession of Mr. Adams) was of a deep gray colour, and covered with reddish hair and black bristles. More than 40lbs. weight of it, which had been trodden into the ground by the bears, were collected, and many of the pieces were 2 feet 4 inches long. The head weighs 460lbs; the two horns, each of which is 9½ feet long, weigh 400 lbs; and the entire animal measured 10½ feet high by 16½ feet long. The tusks are curved in the direction opposite to those of the elephant, bending toward the body of the animal. Mr. Adams adds, that he found a great quantity of amber on the shores.

(Med. and Phys. Journal.)

LIST OF FELLOWS.

[Those with this (*) mark prefixed are deceased. Those with this (†) have retired. Those with this (‡) have removed.]

*Samuel Adams, *Boston.*
Samuel Adams, *Wiscasset.*
*Nathaniel W. Appleton, *Boston.*
Moses Appleton, *Waterville.*
Israel Allen. *Sterling.*
Israel Atherton, *Lancaster.*
Samuel Adams, *Bath.*
Benjamin Adams, *Lynnfield.*

William Baylies, *Dighton.*
Thomas Babbit, *Brookfield.*
Alvan Bacon, *Scarborough.*
*Joshua Barker, *Hingham.*
Jeremiah Barker, *Falmouth.*
Josiah Bartlett, *Charlestown.*
John Bartlett, *Roxbury.*
Nathaniel Bradstreet, *Newburyport.*
Chauncey Brewer, *West-Springfield.*
Oliver Brewster, *Becket.*
‡Josiah W. Brewster, *Blanford.*
William Buel, *Sheffield.*
John Brooks, *Medford.*

*Samuel Brown, *Boston.*
Benjamin Brown, *Waldoborough.*
Hugo Burghardt, *Richmond.*
Peter Bryant, *Cummington.*
Asa Bullard, *Boston.*
Amos Bancraft, *Weston.*

*Benjamin Curtis, *Boston.*
*John Cummings, *Concord.*
†David Cobb, *Taunton.*
Abijah Cheever, *Boston.*
Timothy Childs, *Pittsfield.*
‡Hezekiah Clark, *Lanesborough.*
Parker Cleaveland, *Newbury.*
Nehemiah Cleaveland, *Topsfield.*
Nathaniel Coffin, *Portland.*
John G. Coffin, *Boston.*
William Coffin, *Gloucester.*
Charles Coffin, *Newbury.*
Daniel Coney, *Augusta.*
Robert Cutler, *Amherst.*
William Cutler, *Hardwick.*
Isaiah Cushing, *Thomaston.*

†Samuel Danforth, *Boston.*
Thomas Danforth, *do.*
Aaron Dexter, *do.*
John Dixwell, *do.*
John Drury, *Marblehead.*
Simeon Dunbar, *Bridgewater.*
Elihu Dwight, *South-Hadley.*

William Eustis, *Boston.*
Shirley Erving, *Portland.*
Samuel Emmerson, *Wells.*

Samuel Farnsworth, *Bridgetown.*
Enoch Faulkner, *Hamilton.*
Noah Fearing, *Bridgewater.*
Seth Field, *Brookfield.*
John Field, *Rutland.*
Oliver Fisk, *Worcester.*
Joshua Fisher, *Beverly.*
Joseph Fisk, *Lexington.*
John Fleet, *Boston.*
Austin Flint, *Leicester.*
Daniel Fogg, *Braintree.*
Dudley Folsome, *Gorham.*
Francis Foxcroft, *Brookfield.*
Nathaniel Freeman, *Sandwich.*
*John Frink, *Rutland.*
John Frink, *Rutland.*
*John Flagg, *Lynn.*
John Flint, *Petersham.*
Noah Fyefield, *Weymouth.*

*Joseph Gardner, *Boston.*
William Gamage, *Cambridge.*
Jones Godfrey, *Taunton.*
James Gardner, *Lynn.*
Henry Gardner, *Malden.*
Jacob Gates, *Boston.*

Rowland Gelston, *Nantucket.*
John Green, *Worcester.*
John Gorham, *Boston.*

*Abner Hearsy, *Barnstable.*
*John Homans, *Boston.*
†Joseph Hunt, *Concord.*
Nathan Hayward, *Plymouth.*
Abiel Heywood, *Concord.*
John Hay, *Reading.*
Richard Hazeltine, *Brunswick.*
Lemuel Hayward, *Boston.*
Gad Hitchcock, *Pembroke.*
Edward A. Holyoke, *Salem.*
Samuel Holten, *Danvers.*
Amos Holbrook, *Milton.*
Joseph Howe, *Templeton.*
Estis Howe, *Belchertown.*
William Holland, *Belchertown.*
John C. Howard, *Boston.*
Marius Howe, *Bristol, (Me.)*
†Ebenezer Hunt, *Northampton.*
Isaac Hurd, *Concord.*
John Hubbard, *Readfield.*
John A. Hyde, *Freeport.*
Abraham Haskell, *Lunenburgh.*
Walter Hunnewell, *Watertown.*

William Ingalls, *Boston.*

*Charles Jarvis, *do.*
James Jackson, *do.*
John Jeffries, *do.*
Timothy L. Jennison, *Cambridge.*
David Jones, *North Yarmouth.*
Horatio Jones, *Stockbridge.*

Thomas Kittredge, *Andover.*
*Giles C. Kellog, *Hadley.*
*William Kneeland, *Cambridge.*
†Thomas Kast, *Boston.*
*Aaron Kingsman, *Portland.*

Isaac Lincoln, *Topsham.*
*John Linn, *Boston.*
*Lewis Le Prelate, *Roxbury.*
†James Lloyd, *Boston.*
William Lamb, *Grafton.*
Jonathan Leonard, *Sandwich.*
Eldad Lewis, *Lenox.*
Moses Little, *Salem.*
Abraham Lowe, *Ashburnham.*
*John Long, *Shelburne.*

*Samuel Mather, *Westfield.*
*Matthew Mayhew, *Edgarton.*
Joseph Manning, *Salem.*
James Mann, *Wrentham.*
Thomas Manning, *Ipswich.*
*Asa Miles, *Westminster.*

Ammi R. Mitchel, *North Yarmouth.*
Nathaniel Miller, *Franklin.*
Stephen Munroe, *Sutton.*
*Thaddeus M'Carty, *Worcester.*

Samuel Nye, *Salisbury.*

Benjamin L. Oliver, *Salem.*
Hector Orr, *Bridgewater.*
*Joseph Osgood, *Andover.*
*Joseph Orne, *Salem.*
Joseph Osgood, *Salem.*
George Osgood, *Andover.*
Jonathan Osgood, *Gardner.*
Cushing Otis, *Scituate.*
George Osgood, jun. *Danvers.*

*James Pecker, *Boston.*
*Oliver Prescott, sen. *Groton.*
*Oliver Patridge, *Stockbridge.*
*Daniel Pierce, *Kittery.*
*Charles Pyncheon, *Springfield.*
William Porter, *Hadley.*
Benjamin Page, jun. *Hallowell.*
James Parker, *Gardiner.*
Abiel Pearson, *Andover.*
Samuel Perry, *New Bedford.*
Martin Phelps, *Chester.*
Ebenezer H. Phillips, *Charlton.*
Thomas Pickman, *Salem.*

Oliver Prescott, *Groton.*
Cyrus Perkins, *Boston.*
Moses Phelps, *Hubbardston.*

*Isaac Rand, sen. *Cambridge.*
Isaac Rand, jun. *Boston.*
Isaac Rand, tert. *Boston.*
†Thomas Rice, *Wiscasset.*
Jesse Rice, *Minot.*
Tilley Rice, *Brookfield.*
Abijah Richardson, *Medway.*
Daniel Rose, *New Milford.*

Peter Snow, *Fitchburg.*
Jonathan Sibley, *Union.*
Nathaniel Saltonstall, *Haverhill.*
Erastus Sargeant, *Stockbridge.*
Micajah Sawyer, *Newburyport.*
Samuel Savage, *Barnstable.*
Charles L. Segars, *Northampton.*
Remember Sheldon, *Williamstown.*
Benjamin Shurtleff, *Boston.*
Daniel Shute, *Hingham.*
*Amos Spofford, *Rowley.*
William Spooner, *Boston.*
Mason Spooner, *Templeton.*
Ezra Starkweather, *Chesterfield.*
John Stone, *Greenfield.*
Foster Swift, *Taunton.*
*John B. Swett, *Newburyport.*

*John Sprague, *Dedham.*
*Charles Stockbridge, *Scituate.*
*John Swett, *York.*
*Elisha Story, *Marblehead.*
†Marshal Spring, *Watertown.*
John Stockbridge, *Bath.*
Moses D. Spofford, *Rowley.*
Ebenezer Starr, *Newton.*

James Thacher, *Plymouth.*
Thomas Thaxter, *Hingham.*
Robert Thaxter, *Hingham.*
Philip Theobold, *Dresden.*
Stephen Thomas, *Portland.*
Abraham R. Thompson, *Charlestown.*
Joseph Torrey, *Salem.*
William Towner, *Williamstown.*
David Townsend, *Boston.*
John D. Treadwell, *Salem.*
Cotton Tufts, *Weymouth.*
Calvin Thomas, *Tyngsborough.*
*Simon Tufts, *Medford.*

*John Vanhorn, *West Springfield.*
John Walton, *Pepperell.*
John Warren, *Boston.*
John C. Warren, *Boston.*
*George Ware, *Dighton.*
‡Richard Wells, *Conway.*
Henry Wells, *Montague.*

Thomas Welsh, *Boston.*
*Elisha Whitney, *Beverly.*
Israel Whetton, *Winchendon.*
William S. Williams, *Deerfield.*
Thomas Williams, *Roxbury.*
Tapley Wyeth, *Sherburne.*
*Joseph Whipple, *Boston.*
*William Whiting, *Great Barrington.*
†Benjamin Waterhouse, *Cambridge.*
Charles Windship, *Roxbury.*

Francis Vergennes, *Newburyport.*

HONOURARY MEMBERS.

Pardon Bowen, *Providence, R. I.*
Ammi R. Cutter, *Portsmouth, N. H.*
Manassah Cutler, *Hamilton, Mass.*
John Ferron, *Lisle, France.*
Lemuel Hopkins, *Hartford, Con.*
John Jones, *New York.*
Adam Kuhn, *Philadelphia, Penn.*
John C. Lettsom, *London, G. B.*
John Osborne, *Middletown, Con.*
William Pain, *Worcester, Mass.*
Benjamin Rush, *Philadelphia, Penn.*
William Shippin, *do.*
Elias Willard, *Albany.*

Samuel Tenney, *Exeter, N. H.*
Benjamin Vaughn, *Hallowell.*
Caspar Wistar, *Philadelphia.*
Andrew Duncan, *Edinburgh.*

APPENDIX.

REPORT ON VACCINATION,

Read at the Annual Meeting of the MASSACHUSETTS MEDICAL SOCIETY. June 1, 1808.

THE Committee appointed on the 3d of February 1808, *by the Counsellors of the Massachusetts Medical Society "to inquire into the present state of the evidence respecting the prophylactic power of the cowpock, and to report such measures as they may find to be expedient for establishing the practice on a safe foundation," beg leave to offer the following report;*

AN examination of the principal writers for and against vaccination has fully confirmed, in the opinion of the committee, the statement originally made by Dr. Jenner, which was in substance as follows, viz. "that the animal economy is under precisely the same laws with respect to the action of vaccine and variolous virus, and that both of them are by inoculation preventives of the smallpox; but that the advantages are greatly in favour of vaccine inoculation, because it is equally safe at all ages and in every season, and does not occasion confinement,—because it neither diffuses contagion nor excites scrophula, and because it is free from the danger attending the inoculated smallpox, which still proves fatal in one case out of two hundred and fifty."

To quote authorities, or to adduce the experiments which have been made, in support of these opinions must be needless. The experiments could scarcely be numbered, and for authorities we have more than nineteen twentieths of all the practitioners of medicine, who have investigated the subject. Let us appeal only to the test proposed by one of the most able opponents of the practice of vaccination; this is Mr. Goldson, an English surgeon, who has published "cases of smallpox subsequent to

vaccination." Mr. Goldson makes the following remark; "The full extent of the powers of vaccination can only be ascertained when the smallpox shall again become the prevailing epidemic:—when the state of the atmosphere shall again be so far variolated, that seclusion can be of little avail; then will be the time to prove, how far the security vaccination gives, will extend." To which Dr. Willan, in his treatise on vaccine inoculation applies the following observations; "This crisis appears to have taken place in the metropolis last year, when the smallpox was more extensively diffused, and proved more fatal than it had been in any of the four preceding years. All persons resident in or near London, who had been vaccinated since the beginning of 1799, but especially the children of the poor, must have had frequent intercourse with variolous patients during the time of the epidemic. The primary series of vaccine inoculations were thus tried in the severest manner possible, yet the subjects of them, to the amount of many thousands, or even tens of thousands, remained proof against the contagion.

"Whilst we acknowledge that some, who had been vaccinated in the preceding years, took the smallpox at this period, we have reason to congratulate ourselves that the number was so small, and that so few mistakes had been committed in a mode of practice entirely new. Mr. Goldson himself allows, 'It was not extraordinary such cases should occur in the early stages of its introduction.'—'Indeed, prior to the nature of the disease being sufficiently understood,' he says, after Dr. Jenner, 'many practitioners took up the lancet, without ever having seen the vaccine pustule."

The high interest which this discovery excited in this country at the time of its annunciation, and the evidence, which was immediately offered by Dr. Jenner and his coadjutors, did, at a very early period, engage the attention of almost every individual among us in the medical profession; and that evidence was so perfectly satisfactory to the public, that a formal investigation of the subject by this society, at that period, was altogether unnecessary.

The most important laws of the vaccine disease were stated by Dr. Jenner, when he introduced the knowledge of it to the world. The principles he laid down and the limitations he pointed out are sufficient to guide us in the great majority of cases. But it was not possible that he should at the outset have been minute in noticing every variety of circumstance attending vaccination. Dr. Jenner foresaw that many errors would be committed and many difficulties would arise, if this practice should not be pursued with the utmost prudence and circumspection. Such errors and difficulties would necessarily affect the reputation of the practice, of which the rules were contravened in the production of them.

Difficulties have arisen, and in reporting the present state of evidence on this subject, it is proper and may be useful to state that the utility of vaccination has been much more contested within the last five years, than during the five years, which preceded them. The committee have examined the evidence offered against vaccination and have endeavoured carefully to estimate its importance; the result of their examination they will state in a manner as concise as shall be consistent with perspicuity.

From the evidence which has been furnished to the public, it appears unquestionably that very many persons, who have been supposed to be secured from smallpox by vaccination, have been subsequently affected with smallpox in a degree more or less severe; although the occurrence of that disease under such circumstances has very rarely been followed by death. From the number of instances of this sort which have already been made public there is reason to believe that very many similar ones will occur, unless prevented by seasonable caution. To whatever cause these events may be attributed, it is not to be presumed that we shall be exempt from similar misfortunes in this country, unless we provide against them; and as they would probably take place during the general prevalence of smallpox among us, and would therefore happen many of them at the same moment, they would be peculiarly distressing.

The committee are happy to say that all real evils of this sort are capable of being obviated; and that if this is not true in every case, the exceptions are at least as rare, as those which happen in the practice of variolous inoculation.

It appears that a large proportion of those, who have had the smallpox after supposed vaccination, were inoculated by persons not of the medical profession, or by those in it, who had not acquired a knowledge of the vaccine disease. In other countries, as in this, persons out of the medical profession have practised vaccination, many of them from motives of benevolence, although some have been influenced by those of a very different character. Whatever motives may have influenced them, the practice of such persons should be discountenanced; for although in perfect cases the character of the cowpock is so decidedly marked, that a very little experience renders it familiar, yet many equivocal cases occur, in which a nice discrimination and a habit of comparing the appearances of cutaneous diseases are found requisite.

It is however true that all the cases of failure cannot be referred to ignorance in the inoculators; and that the smallpox has appeared with a character more or less strongly marked even in those, who have been vaccinated by regular practitioners of medicine; and indeed by practitioners who have had much experience and been well-informed on the subject of cowpock. In support of this statement the committee refer among other authorities to the following, viz; Willan on Vaccine Inoculation; Medical and Physical Journal, vol. 14. pages 5, 6, 21, 143, 308, and 407; Medical and Chirurgical Review, vol. 13, in the miscellaneous part, pages xcii, cxv, and cxvii.; vol. 14, miscellaneous, pages lxxxv, cxxxiv, and cxxxv. Many other references might be given to other pages in the same and also to other works. The committee have selected the following cases, which are not however more remarkable than many others.

"*A Case of Smallpox after Vaccination; communicated by Mr. Blair, Surgeon of the Lock Hospital, &c.*

"On May 7, 1803, I inoculated a child, named Alice Gorthorpe, with the vaccine fluid. The disease made its usual pro-

gress, and left a cicatrix on each arm, as may be seen at present. On the eighth day after inoculation, I took matter from this child, and vaccinated several others.

" On Monday, June 3, 1805, the mother of the child, residing at No. 25, Tower-street, Seven Dials, came to my house, and shewed me the patient covered with a distinct variolous eruption, small in size, but fairly maturated. I sent her immediately to Dr. Adams, (who succeeded Dr. Woodville at the Inoculation Hospital) to prevent my giving an erroneous opinion respecting her case ; he agreed with me that it was certainly the smallpox ; and that this instance must be added to the few others which have occurred, of the variolous infection taking place subsequent to complete vaccination.

" I have only to add, that three years ago I vaccinated another child of the same parent, and a third on the 21st of May last ; both of which, with nine more who had been inoculated in the same family, escaped the smallpox on this occasion ; and, what is deserving of notice, the infant whom I vaccinated on the 21st of last month (Thomas Gorthorpe) had slept in the same bed with his sister during the whole progress of her recent disease.

" *Great Russel-street, Bloomsbury, June* 6, 1805."

[Med. & Phys. Jour. vol. 14, p. 21.

Extracts from a paper by Mr. Ring.

" Two other cases of the smallpox have occurred since my last communication, in patients vaccinated by me. One of them is a child of Mr. Pearse in Great York Mews, Baker-street, who was inoculated four years ago, with matter taken on the tenth day. I have long avoided to take matter at so late a period ; but at the same time must acknowledge, that in this case I frequently saw the pustle, which appeared perfect, and to go through its regular course.

" The subject of the other case is a child of Mr. Stokes, No. 12, Orange-court, Swallow-street, whom I inoculated five years ago, at a time when it was not thought of much consequence at what period matter was taken, provided a pustule, resembling a vac-

cine pustule, took place. Such a pustule took place in the present instance, and afforded matter for a considerable number of other successful inoculations; and those who were thus inoculated, have resisted the infection of the smallpox. I cannot, therefore, but consider it as having been a genuine case. The smallpox, in this instance and the former, as well as others, is so very benign for the natural sort, that I conclude it is modified and mitigated, though not totally prevented, by the precediug vaccination." [Ibid. p. 143.

Extracts from the Minutes of the Original Vaccine Pock Institution in London.

"June 10, 1806. Anna Maber (No. 33 on Dr. Nihell's list), now ten years of age, attended the institution, with an eruption supposed to be smallpox. She was vaccinated at this institution four years ago, and there is a very distinct scar on the left arm. She began to be ill eleven days ago, and in three days a rash appeared. On the fourth day, an eruption followed, with abatement of the fever, and the rash disappeared. The eruptions continued to come out for some days, and the fever went entirely off. The eruptions are still out, but in a dried or scabbed state, and amount in number to some hundreds: they are more or less on the skin of every part of the body. The mother of the child says, that most of them did contain yellow matter: a few of the scabs are now the size of ordinary smallpox, but most of them not so large.

"At the same time attended Mary Maber, eight years old (No.34 on Dr. Nihell's list); she was also inoculated at this institution at the same time with her sister above: a distinct scar remains on the arm inoculated. She sickened the day after her sister with similar symptoms, and in four days eruptions appeared, about twenty in number, the illness at the same time abating. The eruptions were the same in size and appearance as in the other.

"No doubt was entertained by the gentlemen present of these being cases of smallpox, which they appear to have taken from William Patterson, a child inoculated for the smallpox twenty-

two days ago, who sickened at the usual period of nine days, and had the smallpox in the ordinary way, with a copious eruption. These three children all lived together in the same room, while Patterson was under the small-pox.

" Both Anna and Mary Maber, according to the mother's account, underwent the chickenpox before vaccination, and both have had the measles since vaccination.

" The register contains the following report of these cases during vaccination.

" No. 33, Anna Maber, five years old, inoculated April 8, " 1800, with eighth day matter, from Mary Burrell, No. 24 ; " one puncture in left arm.

" 8th day. One well-formed pustule—headach and fever on " the seventh day, but now better.

" 11th day. Pustule looks well, with broad red margin—has had headach and fever since the last report.

" 13th day. Pustule black—beginning to dry up : very well since last report.

" No. 34. Mary Maber, three years old, inoculated from same patient and same day with the above : one puncture in left arm.

" 3d day. Taken ; no illness.

" 8th day. A well-formed circular pustule, with red margin.

" 11th day. Fine pustule, with great inflammation in the arm—has been poorly since last report.

" 13th day. Pustule black and drying.

" 14th day. Well.

" June 17. As an additional proof that the two Mabers were duly affected with cowpox, they were at the time selected for the inoculation of five children in one family ; viz. Mr. Parker's of Fleet-street, who also went through the cowpox, as was conceived, in a distinct manner, and were subsequently inoculated for smallpox by Dr. Pearson without effect. Farther ; the two Mabers were inoculated with eighth day vaccine matter, as above stated, from Burrell, who was among the number of patients inoculated by this institution for smallpox after vaccination, and

exposed to variolous infection at the smallpox hospital two years ago, without effect. In looking over Burrell's case, it appears that he took chickenpox five months after vaccination, and yet was found insusceptible of smallpox, contrary to Mr. Goldson's suggestion." [Med. & Chirur. Review, vol. 13, p. cxv.

"May 8, 1807. Dr. Pearson reported that Dr. H—— had called upon him to communicate the following case of failure in the instance of his own child.—About five years ago the subject was inoculated from a person in the cowpock selected by Mr. K. of the Army Board and approved by Dr. B——, and in consequence the most distinct vaccinepock affection was produced. A few weeks ago it was thought proper to test the patient by inoculating it with variolous matter obtained from the smallpox hospital. This inoculation has produced the most distinct smallpox disorder, the eruptions being decidedly those of the smallpox, of which there are about forty large and fully suppurated, besides a number of small ones not suppurated. Mr. Bowen of Harrow and others of the faculty have seen this child in the smallpox. [Ibid. vol. 14, p. cxxxv.

"Oct. 6, 1807. Mr. Gemmell, surgeon apothecary, Princes-street, Drury-lane, attended to give information respecting some cases of failure of cowpock.

"1st. In the family of Mr. Thorn, an upholsterer, Bear-yard, Lincoln's Inn Fields: one of his children was inoculated at Pancras hospital about three years ago; about nine weeks afterwards, Mr. Gemmell attended the same child in the smallpox, which was very distinct and full, and unquestionably smallpox.

"2d case was in the family of one Weaver, 35, Stanhope-street, Clare-market. (See the particulars of this case below.)

"The 3d case is now in the scabbing state of smallpox, at No. 14, Banner's court, Drury-lane. This child had been vaccinated at the smallpox hospital.

"Oct. 13. Ann Weaver attended this day with her son, William Weaver, nearly six years of age, whose case is mentioned above by Mr. Gemmell, (No. 2.) She says he was inoculated

for cowpox by Mr. Wachsel, at the smallpox hospital, about three years and a half ago : the scars are visible, but faint. The case was considered by Mr. Wachsel at the time to be complete, and several other patients were inoculated from it. He was re-inoculated, however, for cowpox about four or five months after, because the mother was dissatisfied, conceiving there ought to have been eruptions. This second inoculation produced a sore arm for several weeks.

" Three months ago this boy was taken ill of fever, followed by eruptions, which were seen and declared to be smallpox, of the confluent kind, by Mr. Wachsel, Mr. Mainwaring, Mr. Sutton, Mr. Lawrence, Dr. Moseley, and others. This boy had communicated a short time before his illness with persons in the neighbourhood labouring under smallpox.

" Mary, the sister of the above, who had been vaccinated by Mr. Wachsel, fell ill five weeks ago, and had about twelve eruptions, the scabs of some of which remain at this time. Other children in the adjoining houses have since fallen ill of smallpox.

" Oct. 26. A note was received from Mr. Gemmell, mentioning the case of a child of Moore, a taylor, residing at No. 17, Great Wild-street, Lincoln's Inn Fields, then lying dangerously ill of smallpox after vaccination. In consequence of this information, a governor of the institution made inquiry the following day into the circumstances of the case. He reported, that he found the child lying dead of confluent smallpox, which had proved fatal on the twelfth day. The father said the child had been vaccinated two years before at Dundee, by Dr. Crichton of that place, who had declared the progress of the vaccine affection to be perfectly regular, and had in consequence taken matter from it to inoculate another child of the name of Scott. A distinct scar remained on the arm, and was visible at the time of the child's death. It was seen in the smallpox by Dr. Haworth, Mr. Gemmell, and several other gentlemen.

" Nov. 6. Dr. Pearson reported, that he had visited a child of the name of Beasly, between three and four years of age, residing at No. 49, Upper Rathbone-place, who was just recovering

from smallpox, so severe as to have been in considerable danger. The eruption was universal, but distinct, and the pustules large and perfectly characterized. The eruption was now in the tenth day, and had not yet completely maturated on the extremities. This child was vaccinated two years and ten months ago, viz. in January 1805, by Mr. Griffiths, of St. George's Hospital, and went through the disease to his satisfaction. Distinct scars remain on the inoculated parts. It is worthy of remark, that the cicatrices were quite free from pustules, although almost every other part of the skin was covered with them. The same thing has been observed in other cases.

" Dr. Clutterbuck this day reported, that he had seen, two days ago, the child of Mr. Stiles, No. 7, Lamb's Buildings, Bunhill-row, then lying dead of smallpox. The disease was of the most malignant character, the pustules in general remaining flat and empty, interspersed during life with numerous purple spots. They were confluent only about the face. Many vesicles containing bloody serum were scattered over the skin.

" This child had been vaccinated at the Golden-lane Jennerian station, by Mr. Lewis Leese, surgeon, and was registered as having gone regularly through the disease. The scar on the inoculated part was perfect.

" Nov. 24, Robert Purdy, of 45, Upper Rathbone-place, attended the institution this day with his daughter, Sarah Purdy, aged four years and two months. This child has now an eruption of pustules amounting to several hundred, pretty generally diffused over the whole body, and which first made their appearance five or six days ago, after three or four days illness, with fever. The pustules on the face are now nearly in a state of maturation: those on the extremities are less forward. The gentlemen present, five in number, are unanimously of opinion that it is smallpox.

" The father says, that the child was vaccinated by Mr. Addington, of Spital-square, four years ago next January, at the Jennerian station in that neighbourhood, and went through the affection regularly. There is a distinct scar on each arm from vaccination.

"A younger child in the same family has just gone through the smallpox, having been inoculated three weeks ago at the smallpox hospital. The smallpox has been also prevalent in the neighbourhood for several weeks past."

[Ibid. vol. 15, p. cxxv.

Cases like these warrant hesitation and have in the minds of many excited serious doubts respecting the utility of vaccination.

It should however be noted that in most of the cases, where the vaccine disease has exhibited its proper characters, the subsequent variolous affection is evidently modified and rendered much more mild by the vaccination. In short where the smallpox has not been prevented by the vaccine pock, it has been disarmed of its terrors.

But the advantages of vaccination are to be determined by a comparison of this practice with that of inoculation for smallpox.

The advantages of variolous inoculation were these; first, that the disease produced by it was very much more mild and less mortal, than when the same disease was produced by casual contagion; and secondly, that the disease having been once produced, by whatever means, it will not occur again in the same subject. Both these laws are generally so true that they have long ceased to be controverted. But to them both there do, although rarely, occur exceptions. In some cases the smallpox produced by inoculation is very severe and even mortal. Likewise in some cases those who have undergone that disease, whether in one way or the other, have subsequently suffered from the same again in a greater or less degree. It is observed in almost every smallpox hospital, that the nurses are subject to variolous pustules especially in those parts, which have been in contact with the pustules of others. In these cases the disease has sometimes been so severe as to occasion symptoms of irritation, or secondary fever. But other cases well attested have been published, in which persons are stated to have undergone the whole of the variolous disease a second time, in a manner not to be doubted. That is, they have had variolous eruptions following the regular symptomatic fever. In support of this state-

ment the committee refer to the authorities subjoined, and have also selected the cases which follow as being particularly worthy of regard. Willan on Vaccine Inoculation. Ring on Cowpock. Med. & Phys. Journal, vol. 13. p. 570. Vol. 14. pp. 7, 176, 251, 404, 405, 407, 436. Vol. 15. pp. 436, 441, 442, 443, 444. Vol. 18. pp. 314, 315.

"*To the Editors of the Medical and Physical Journal.*

"GENTLEMEN,

"Thinking the following account of the second appearance of smallpox in the same person, interesting; and that it may be usefully conveyed to the publick, through the medium of your very useful and widely circulated Journal, I have sent it for insertion. I am, &c.

"EDW. LEESE.

"*East Street, Manchester Square,*
August 18, 1805."

"Mrs. PIDGEON now living as housekeeper with Mr. Jarnet, of David Street, the corner of East Street, Manchester Square, informs me, that her late husband, when about fifteen years of age, then residing as a gardener with Capt. Markall, of Honiton, in Devonshire, was inoculated for the smallpox by Mr. Buller, a surgeon of that place; that his arm inflamed very much; and that it was succeeded by a thick eruption of pustules all over his body; his feet were so full of them, that he was unable to stand. He was for some time confined; and so very ill, that Dr. Robinson, of Honiton, was requested to see him. Dr. Robinson and Mr. Buller continued to attend him till his recovery, without expressing any doubt of the nature of the disease.

"Some years after, a lad in the same family had the small pox; during the progress of which, he slept with him, and received no inconvenience.

"When he was about twenty-eight years of age, his own children had the smallpox; of which one died. He lived and slept with them, and at length was taken so ill, as to be obliged to leave his work; complaining of sickness, head-ach, and severe pains in his back. The medical gentleman attending the chil-

dren was sent to; who observed, that if he had not already had the smallpox, he should think he was then sickening for it. After an illness of two or three days, a full eruption of the confluent smallpox made its appearance; of which he died on the eleventh day." [Med. & Phys. Jour. vol. 14. p. 251.

"*Copy of a Letter from the Earl of Westmeath, to Dr. Jenner, dated May* 23, 1805.

"SIR,

"Understanding that a report has been circulated, which, if believed, would tend much to weaken that confidence, which is at present so generally and so justly entertained by the public, in your system of inoculation for the cowpox, namely, that my youngest son had taken the natural smallpox, after having been vaccinated, I think it but justice to you to contradict the report; and to state, for your satisfaction, the real circumstances of the case, which are as follow:

"When he was about two months old, he was inoculated for the smallpox, in the Suttonian method, by a physician in Ireland, who has been very generally successful in inoculation, and pronounced by him to be perfectly free from the risk of infection; notwithstanding which, he caught the infection, about a fortnight since, and is now recovering from the natural smallpox.

"I beg to inform you, at the same time, that my youngest daughter, who was vaccinated by you, about four years since, has not only been frequently exposed to the danger of infection, but was actually inoculated for the smallpox, without taking it. I have considered it incumbent on me to bear testimony to the efficacy of the vaccine system, as I consider the report relative to my son, which originated in misrepresentation, to have been circulated for purposes obviously prejudicial to that most useful and fortunate discovery.

"I request you will make any use of this communication, which you may think necessary.

"I am, Sir,

"Your obedient humble servant,

"WESTMEATH."

[Ibid. p. 256.

" *Arundel, September* 13, 1805.

" Sir,

" I yesterday received your letter, and shall be happy if any information I can give, concerning a person's twice having had the smallpox, should contribute towards removing the doubts which exist, of the superiority of vaccination.

" In the year 1738, the smallpox committed its furious ravages in this place, and is said to have destroyed one out of every seven whom it attacked. Amongst the number of infected was William Birt, at that time about eighteen months old. It has been a tradition here, as long as the oldest of the inhabitants can remember, that this boy was supposed to have been dead ; and that his body was purchased by Mr. Birch, a surgeon, for the purpose of dissection. He, however recovered ; and for the rest of his days, was a living monument of the havoc the disorder had made. I knew him well ; and do not recollect many instances of a person more fretted and seamed by the smallpox than he was.

" The marks he bore, were deemed a sufficient security against any future infection of the smallpox. He was therefore appointed to attend on variolous patients in the pesthouse ; a kind of lazaretto at the skirts of the town.

" One woman died of the smallpox in the house, on the 15th of February, 1799, and another a few days after. William Birt, the subject of your inquiries, sickened on the 28th of the same month ; and the eruption appeared on the fourth day. I saw him on the sixth day of the disease, being sent for by the family to give my opinion on the possibility of its being the smallpox ; which none of them could believe, from the evident marks of his having had the complaint.

" On inquiry I found, that he had been exposed, a short time before, to variolous contagion ; and that his disorder commenced with the symptoms usually attending the worst kind of the smallpox. The eruption was confluent ; and his throat was severely affected. He was removed from his home, on the day I visited him, to the pesthouse ; where he died on the twelfth day of the disease.

"If this detail can be of any service, I beg you will accept it, with my sincere wishes, that it may contribute towards the advancement of your pursuits.

"I am, &c.

"WILLIAM PLOWDEN.

"MR. RING."

[Ibid. p. 404.

Extracts from a paper by Mr. Ring.

"The two following cases were communicated to me by Dr. Jenner; and published in my answer to Mr. Goldson. Mr. Fewster of Thornbury, the celebrated inoculator, had the smallpox in his youth, and was exposed to the infection with impunity for forty years; yet, happening to wound his finger with the point of a lancet, charged with variolous matter, the puncture inflamed and suppurated; and he had a considerable number of pustules on his forehead.

"Mr. Scott, another surgeon in the same town, had the smallpox by inoculation; which proved to be of the confluent kind. Nevertheless, he caught it again twenty years after, from a patient whom he was attending; and had it with some degree of severity.

"*Princes Street, Cavendish Square.*

'SIR,

'I have sent you four cases, containing a plain narrative of facts. I cheerfully submit them to you, from a conviction that they will be employed, as far as they are capable, for the advancement of truth and science.

'I am, &c.

'WILLIAM ROYSTON.'

"*Cases of casual Smallpox succeeding to the inoculated disease, after an interval of nineteen years.*

"Sarah and Mary Taylor were inoculated for the smallpox; Sarah when two years, and Mary when four days old. Sarah was inoculated by a Mr. Richardson, who was engaged in practice with, or was a pupil of Sutton. She had but few pustules,

and those faded early, but she was pronounced safe. Mary was inoculated by Mr. Robert Muriel, a respectable country practitioner, and the virus which he used was taken from a person who had the disease by inoculation. She went regularly through the distemper, had a considerable crop of pustules, and an indelible mark remains in her arm where the matter was inserted. During a period of nineteen years these young women, perhaps, were not exposed to the smallpox contagion ; but at the end of that time, in February 1788, a general inoculation took place in the village where they resided. Sarah was then attacked with the casual disease ; the pustules were confluent in her face, but distinct in other parts ; she was blind some days. Mary took the disease at the same time ; the pustules on her were numerous but distinct, and turned on the second day.

" *Case of Smallpox occurring a second time.*

" Mary Feakins, of Somersham in Huntingdonshire, had the smallpox in the year 1769, the disease being then very general in the neighbourhood. It appeared in her in its severest form, and she suffered extremely. When she was attacked with the complaint she nursed an infant daughter, then six weeks old, who took the smallpox from her mother, had a confluent kind, was much marked, and lost an eye. In the year 1788, when this daughter was nineteen years old, on being exposed to the accumulated contagion of the smallpox, she was again attacked with the disease ; and I attended her. This second attack was not of the slight kind which has been observed to occur in nurses. The eruptive fever continued four days ; there was considerable inflammation about the fauces ; the number of pustules in her face amounted nearly to two hundred, with a proportionate crop over the surface of the body. The pustules on the face arrived at the acme of maturation on the seventh day from their appearance. Swelling in the face closed the eyes ; the extremities were tumefied, and some degree of ptyalism took place. The accumulated effluvium to which this girl was exposed occurred from her sleeping in the same room with three younger sisters, who

were down with the disease, one with the casual sort, and two by inoculation."* [Ibid. vol. 15, p. 442.

This doctrine, that the small-pox will sometimes occur twice in the same subject, is not new; although it has been controverted by great authorities ;† but the occurrence is so rare, that it has not been found during the experience of nearly a century to constitute any serious objection to variolous inoculation. For in the first place, the question is not whether those who have had the smallpox once are capable of being affected at all by variolous matter, but whether they are *secure against severe affections* by the application of that matter to them. If, when they have once undergone the disease, whether produced by casual infection or by inoculation, they are not liable to suffer severely from it again, and if the disease, when produced in the latter mode, was far more mild and safe, than when produced in the former, the utility of inoculation was sufficiently decided. Such was found to be the case generally. If one exception has occurred to this general rule in a thousand cases, and even if every person should die, who experiences a second attack of the disease, such rare exceptions could not form any objection to the practice of inoculation. The truth has been much more favourable than these suppositions represent it.

The advantages of variolous inoculation therefore have long ceased to be questioned, and even these objections to the practice were almost forgotten, till the contest respecting the vaccine disease has revived the consideration of them.

If the vaccine disease affords equal or nearly equal security with the variolous, it must be needless to point out its superior

* The cases of Diemerbrook, and that of Withers in the 4th vol. of the Memoirs of the London Medical Society, have often been quoted. Mr. Ring remarks "it is worthy of notice that in almost every instance where I have inquired into a failure, or supposed failure, in the inoculation of the cowpock, I have heard of a failure, or a supposed failure, in the inoculation of the smallpox." By *failure* he means a failure to give security from smallpox.

† Sir William Watson, Dr. Archer, Baron Dimsdale, and Mr. William Sutton. See Med. and Chir. Rev.

advantages in other respects. "It is equally safe at all ages and in every season, and does not occasion confinement; it neither diffuses contagion nor excites scrophula; and it is free from the danger attending the inoculated smallpox, which still proves fatal in one case out of two hundred and fifty." That it does in the great majority of cases afford a temporary security is so generally admitted even by its opponents, that on that head it would be useless to adduce proofs. Let it suffice to state the principal objections to the practice, which have been made by the most sagacious antivaccinists, and to describe the methods which have been proposed to obviate even the few evil consequences, which are attendant upon it.

The objections are, first that the security it affords is not permanent; second, that the occurrence of other contagious diseases, as hooping cough, measles and chickenpox, in persons who have been vaccinated will restore the susceptibility of variolous contagion; third, that although the genuine cowpock may secure its subjects from smallpox, yet its character is so imperfectly marked, that few if any practitioners are capable of determining them with precision and certainty; fourth, that it is productive of horrid and loathsome diseases, which occasion protracted sufferings and sometimes death.

We may first remark that these objections are precisely similar to those, which for a long time delayed the universal adoption of variolous inoculation.

To the first objection, the want of permanence in the security afforded by vaccination, Dr. Jenner long since offered a sufficient refutation by giving a list of persons, who had been many years before casually inoculated and had undergone the cowpock, and who still resisted smallpox. Among many cases, which have since been adduced to corroborate his statement, none is more satisfactory, than those of Mr. Jesty, an English farmer, and his family. This man seems to have been among the first* who ever practised vaccine inoculation by design. Having been ac-

* There is an account of similar instances on the continent of Europe, as early and earlier.

cidentally inoculated with the cowpock himself and experienced the benefits of the consequent security from smallpox, he inoculated his wife and two sons with virus taken from the cow in the year 1774. One of these sons, Mr. Robert Jesty, was inoculated with variolous matter in London in the year 1805, thirty-one years after vaccination, and was found unsusceptible of smallpox.* The father and all the family had frequently been exposed to the smallpox before, and the two sons had been inoculated for it in the year 1790, and in every instance without effect.†

The second objection, that certain contagious diseases following the cowpock restore the susceptibility of smallpox, does not carry with it the semblance of truth; and it is refuted by direct observations. Dr. Willan after relating cases of smallpox subsequent to vaccination, and noticing this objection says, "I have found, on inquiry, that more than half the children above-mentioned, who took the smallpox after vaccination, had been intermediately affected with the measles, chickenpox, scarlet fever, cynanche parotidæa, or hooping cough, but that in the rest there had not been any intervening disease. The changes of constitution produced between infancy and adult age, might, with as much probability, be supposed to remove the effects of the cowpox. This, however, is not the case in the natural cowpox, nor are adults less liable than children to failures in vaccination."

Dr. Willan refers to some observations on this subject by

* Med. and Chir. Rev. vol. 12. p. lxviii. miscellaneous.

† Mr. Jesty's experiments were made more than twenty years before those of Dr. Jenner. While these cases make a valuable addition to the testimony in favour of vaccination, the limited and unpublished experiments of Mr. Jesty do not detract in the slightest manner from the claims of Dr. Jenner on the respect and gratitude of mankind for having originated the practice of vaccination. Mr. Ring says, "Dr. Jenner never has claimed the merit of discovering the prophylactic power of the vaccine virus: but he is fully entitled to the praise of converting that discovery to general advantage." Dr. Jenner discovered to the world that this light was hid under a bushel

Dr. Stanger of the foundling hospital in London. Dr. S. after relating the cases of twenty-one children in that hospital who resisted the smallpox after vaccination adds the following remarks, "The same twenty-one patients also supply the most satisfactory evidence to invalidate Mr. Goldson's supposition, that eruptive diseases may remove the security derived from cowpox. During the period which intervened between their being vaccinated in March 1801, and variolated in November 1804, six of them had scarlet fever and four measles. Ten of them had hooping cough also, which proves that these contagious febrile disorders, which so powerfully affect the constitution, have no influence in diminishing the efficacy of vaccination. As the first inoculation with variolous matter, in 1802, produced no constitutional affection, it cannot supply an argument against the durability of the antidote for three years and a half." Other authorities might be adduced to the same point.

The third objection recounted above states the difficulty of determining when the disease is genuine. This objection was in some measure just in the first years of vaccination, and great care is requisite to prevent it from being so at all times. The appearances at the part inoculated are alone to be relied on in determining whether the cowpock is or is not perfect. When the disease takes place in its most regular form, as with due care will happen with very few exceptions, no one will feel any hesitation, who has had a tolerable share of instruction on the subject. But there are observed in persons inoculated for cowpock appearances varying from those of the true disease; and these variations are in different respects and in different degrees. It does perhaps require considerable experience to gain an acquaintance with every anomaly which occurs in vaccine inoculation. But the safe course is to note down every case, which is doubtful, and at the end of six or twelve months to repeat the insertion of vaccine virus. The necessity of this precaution cannot be estimated too highly. The committee think it so important to point out the true distinctions, which must determine our judgments on this subject, that they have quoted at large the remarks

relative to it from two late writers; the one Dr. Robert Willan, the accurate and faithful observer of cutaneous diseases; the other Dr. Joseph Adams, the ingenious and scientific writer upon morbid poisons; than whom perhaps no two men now existing are of higher authority in the case of a morbid poison producing its effects on the skin.

Directions for performing vaccination and a description of the regular appearance of the disease.

"The general directions already given in smallpox inoculation, as far as they are applicable, may serve in cowpox: but the most important consideration is carefully to avoid using fluid in the smallest degree turbid. True vaccine fluid is so perfectly transparent, that on fine glass, or even on the point of a fine lancet, it cannot always be perceived. For the most part it escapes very slowly from the puncture made through the cuticle; not being like the fluid of a blister contained in a single bag, but in a number of small cells communicating with each other. When it escapes in this gradual manner, it sometimes forms itself into a spherical shape, and retains its figure like a perfectly transparent jelly. There are, indeed, some varieties in this respect depending on the age of the vesicle, and the degree of inflammation with which it was attended; but there is no exception as to its crystalline transparency.

"It is generally thought best to take the fluid before the eighth day; but when this is done the vesicle *from which we take it* should be watched till scabbing, for if without other violence than the above puncture, the contents should become mattery or the scab soft, we ought not to depend on the issue of our vaccination, but to take another opportunity of repeating it.

"2dly. The pure matter taken as above, should be inserted at the end of a clean lancet, by a simple incision. It is not always easy nor important to avoid drawing a little blood. No means whatever for retaining the fluid, either of bandage or plaster, being used, the blood, if any escapes, should be suffered to dry on, as the best dressing for the little wound.

"On the following day it will sometimes not be easy to ascer-

tain whether our inoculation has succeeded, but on the next, being the third, inclusive of the day of inoculation, you may perceive a red point which, being pressed by the finger, will give the sensation of a very small hardness immediately under the skin.

" On the fourth day the point should be increased, and somewhat shaded or radiated. On the fifth a small vesicle or bladder may sometimes be perceived with the naked eye. On the sixth with still more certainty. This is gradually increased in size, the base rarely exceeding the summit, till the eighth or ninth, when the almost level summit will for the most part, exceed the base. During the whole progress a small indentation will usually appear, preserving the form of the incision.

" Hitherto the appearance is very similar to smallpox, and in some cases cannot be distinguished from it. But from this time the difference is easily marked excepting in one kind of smallpox. In all others the inoculated part, however regular it may have proved till the eighth or ninth day, now becomes jagged at its edges, and its contents grow more or less purulent. In the cowpox the circular form continues, or if from the length of the puncture the form should be more oblong, still the edges will be well defined, the contents remaining limpid.

" The external skin seems to thicken as the vesicle acquires its full size, and gradually approaches nearer to the amber colour. At other times the skin seems more transparent, and shows a blue tint beneath it. On these occasions the vesicle is flatter. This difference appears to arise from a higher degree of inflammation, in consequence of which the surface below is fuller of vessels conveying red blood, and affords a purplish appearance through the cuticle and lymph.

" On one of these or the following day a considerable redness appears round the vesicle ; this has been very properly denominated by Dr. Jenner the *areola*, or *small area*, round the vesicle. If this redness or areola has a well-marked edge at the extremity it never exceeds the boundary it first formed for itself ; but if it is deepest immediately round the vesicle and shaded from thence, its extent is much more uncertain ; though from the eighth or

ninth day the skin appears to thicken, and the vesicle to flatten, excepting round the edge, yet the contents are still limpid. The edge now forms a rim higher than the centre, so that the whole has been very well compared to a ripe mallow-seed. The surrounding redness ceases from day to day, the margin of the mallow-seed shrivels, the centre acquiring a crustaceous, and afterwards a stony hardness, at the same time gradually contracting itself, particularly round its extremities, so that the centre is generally most elevated, and the whole scarcely fills the little cavity in which it is contained. In this state it has been compared to a tamarind stone. This illustration, though for the most part correct, is less so than that of the mallow-seed, because the appearance of the scab is more various. It is, however, if uninterrupted, constantly stony, but varies in colour as much as the different shades of mahogany. In this state it remains sometimes for two or three weeks, and when it falls off leaves a scar which though not deep, has in all the cases I have seen, proved permanent like the smallpox. From the latter it differs not only in being more superficial, but in being marked with small and somewhat regular indentations. There is some variety in this appearance, which will hereafter be noticed.

" When the progress has been so far regular, the patient has every security against the smallpox which our present knowledge affords. We shall hereafter take notice of certain deviations distinguishing between such as are consistent with the security of the patient, and such as render it doubtful."

[Adams on Vaccine Inoculation, p. 110.

" *Deviations from the customary laws of vaccination.*

" Whenever we find it difficult to ascertain on the third day by the marks already described, whether our operation has proved successful, we should first examine the general state of health. If any symptoms of fever occur, we may be sure that the effect of vaccination is superseded by some other disease ; and if our patient has been exposed to the measles or chickenpox the probability is, that he may go through one of those diseases before the progress of vaccination commences. In this manner the

vesicle after being formed, may be arrested at any future period before the sixth day and afterwards resume its action when the cause which interrupted it ceases. If the patient has been exposed to small pox and the feverish disposition should arise from that cause, the cowpox insertion will rather be hastened in its progress. It will afterwards proceed with the smallpox pustules retaining its proper figure, but without that surrounding redness which marks its genuine character.

" But if we find no progress in the arm after the third day, nor any symptoms of fever, we should examine whether our patient has any other local complaints about him. Whether he has eruptions of any kind, and if it should be an infant, about the ears particularly. Whatever may be the issue of our examination we should repeat our insertion, as it cannot be attended with any injury. It will often happen that the second inoculation will not only succeed, but that the first will begin its progress at the same time, and both will go through the regular stages together. On all these occasions a more than ordinary attention is necessary to the progress of the vesicle, for these are the cases which have brought vaccination into the greatest discredit.

" It will sometimes occur that after the inoculated part has proceeded to a certain height with its true character, it will suddenly assume the purulent appearance of any other eruption about the body. In this case we cannot expect the constitution to be secure, as the vaccine vesicle has not gone through its necessary stages. At other times the vesicle will complete its stages and at the end of the second, or beginning of the third week, or about the period when the scab is completed, the distant eruptions will assume the vaccine character, and heal in a few days after. In the last case we can have no doubts of the security of our patient, but as was before observed whenever the inoculated part becomes purulent from this or any other cause, it is absolutely necessary to vaccinate again.

" If after repeating our vaccination, on account of the backwardness of the first, we find the same difficulties in the second, we may make a third attempt, but if this should fail also, the

health of the patient should be attended to, and, when restored, the attempt may be renewed. If there is no apparent obstacle in the health, we should still defer our insertion for a few months, and after repeating it then, if the same difficulties remain, we must leave it to the patient to determine when and whether he will wish to make any future trial. At the same time we should inquire whether any others of the family have resisted every exposure to smallpox infection and every attempt at inoculation.

" It is generally said that vaccination produces no local effects but at the part to which the fluid is inserted. This is for the most part true ; but it is unquestionable that what are called secondary vesicles do sometimes occur : that is, an eruption of vaccine vesicles at distant parts of the body in the manner that smallpox pustules appear after the inoculation of that disease. It has been urged by some that these eruptions after cowpox are the effect of a second inoculation by the patient carrying the fluid of the first to a distant part. But this is easily distinguished. When matter is carried in this way, the vesicle formed always finishes its progress at the same time as at the part first inoculated : whereas secondary vesicles never *appear* till the close of the second or beginning of the third week, when the original vesicle has begun to scab.

" Besides these secondary vesicles a number of small hard elevations sometimes occur at different periods of vaccination, most commonly at the commencement of scabbing. They are of no consequence, and subside without any other than the common remedies." [Ibid. p. 123.

" *On the characteristics and effects of perfect vaccination.*

" Vaccination is accounted perfect, when recent lymph has been carefully inserted beneath the cuticle, in a person free from any contagious disorder, and has produced a semi-transparent, pearl-coloured vesicle, which after the ninth day, is surrounded by a red areola, and afterwards terminates in a hard, dark-coloured scab.—The form and structure of this vesicle is peculiar. Its base is circular, or somewhat oval, with a diameter of

about four lines on the tenth day. Till the end of the eighth day, its upper surface is uneven, being considerably more elevated at the margin than about the centre, and sometimes indented by one or two concentric furrows, but on the ninth or tenth day the surface becomes plane, and in a very few instances the central part is highest. The margin is turgid, firm, shining, and rounded so as often to extend a little beyond the line of the base. The vesicle consists internally of numerous little cells, filled with clear lymph, and communicating with each other. The areola, which is formed round the vesicle, is of an intense red colour. Its diameter differs in different persons from a quarter of an inch to two inches, and it is usually attended with a considerable tumour and hardness of the adjoining cellular membrane. On the eleventh and twelfth day, as the aerola declines, the surface of the vesicle becomes brown in the centre, and less clear at the margin. The cuticle then begins to separate, and the fluid in the cells gradually concretes into a hard rounded scab of a reddish brown colour. This scab becomes at length black, contracted, and dry, but it is not detached till after the twentieth day from the inoculation. It leaves a permanent circular cicatrix, about five lines in diameter, and a little depressed, the surface being marked with very minute pits or indentations, denoting the number of cells of which the vesicle had been composed.

"During the progress of the vesicle some disorder takes place in the constitution, and there is frequently on the arms and back a papulous eruption resembling some forms of the Lichen and Strophulus. These circumstances we should by analogy judge desirable; but they do not always occur, nor are they deemed requisite to ensure the full effect of vaccine inoculation,—that effect, which, as ascertained and announced by Dr. Jenner, is allowed to be more important than any event which the history of medicine can furnish."

[Willan on vaccine inoculation, p. 9.

"*On imperfect vaccination.*

"Vaccination is imperfect, or insufficient, I. When the fluid employed has lost some of its original properties. II. When

the persons inoculated are soon afterwards affected with any contagious fever. III. When they are affected, at the time of inoculation, with some chronic cutaneous disorders.

" I. The qualities of the vaccine fluid are altered soon after the appearance of an inflamed areola round the vesicle : and the fluid, although taken out of the vesicle in the best possible state, may be injured by heat, exposure to air, moisture, rust, and other causes.

" When scabs are formed over variolous pustules, and vaccine vesicles, the matter they afford is often acrid and putrescent, and, if inoculated, it perhaps neither communicates the vaccinepock, nor the smallpox, but produces a fatal disease, with symptoms similar to those which arise from slight wounds received in dissecting putrid bodies. Should the pustules of smallpox remain entire till the twentieth day of eruption, matter taken from them, even at that period, will sometimes communicate, by inoculation, the disease in its usual form, though perhaps with considerable virulence. We are, however, now assured on good authority, that matter improperly kept, or the thick matter taken from collapsed and scabbing variolous pustules, and used for the purpose of inoculation, does not always produce the smallpox, nor prevent the future occurrence of that disease, although the persons inoculated may have had inflammation and suppuration of the arm, and pains in the axilla, with fever and eruptions on the ninth or tenth day. In like manner if the vaccine fluid employed be taken at a late period, as from the twelfth to the 18th day, it does not always produce the genuine cellular vesicle, but is in some cases wholly inefficient, while in others it suddenly excites a pustule, or ulceration, in others an irregular vesicle, and in others erysipelas. Similar appearances are observed, when fluid taken from a perfect vesicle on the sixth, seventh, or eighth day has been injured, before its application, by some of the causes above enumerated. In addition to them, I may observe that if the vesicle be ruptured, at an early period, by friction, or scratching, the inoculation sometimes proves imperfect. Failures may have also been occasioned by repeatedly puncturing,

or draining the vesicle, on two or three successive days. The fluid, which is afterwards secreted into the cells thus exhausted, may, by a difference of properties, or by too much dilution, be rendered incapable of acting fully, either on the person from whom it is taken, or on those to whom it is communicated. Some of the early failures, in persons inoculated at different publick institutions, are perhaps referable to this cause, the demands for vaccine fluid in 1799, and 1800, having been very numerous, the cases to supply them comparatively few.*

"II. Eruptive fevers and other febrile diseases, interfere with the progress of the vaccine vesicle. The measles, scarlatina, varicella, typhus, and influenza, appearing soon after vaccination, either render it ineffective, or suspend the action of the virus, so that, in some cases, the progress of the vesicle is very slow, and the areola is not formed till the fourteenth day or later, and sometimes not at all. Dr. Jenner has recorded the case of a child, on whom the scarlatina, with a sore throat, appeared on the ninth day of vaccine inoculation. The vesicle enlarged as usual, 'yet there was a total suspension of the areola, until the scarlatina had retired from the constitution.' In a sister of this patient, the fever and scarlet efflorescence took place faintly on the same day, but suddenly disappeared, the areola having been formed round the vesicle. Four days afterwards, on the decline of the vesicle, the scarlatina anginosa returned with its usual symptoms.

"III. The cutaneous diseases which sometimes impede the formation of the genuine vaccine vesicle,† are herpes (including

* It is an useful caution to vaccinate in two or three places, and to puncture only one of them to procure the virus: that is to allow at least one vesicle to go through its whole course undisturbed.

† "Variolous inoculation sometimes fails from the same cause. See Dr. Jenner, and Mr. Hill, Med. and Phys. Journal, for June, 1805. Compare the Journal for May, 1803, and Aug. 1804.

"Dr. Jenner has favoured me with the following instance:—'The child of a gentleman at Blakeney, Gloucestershire, was at two years of age inoculated for the smallpox with others of the same family. In this child, there was a deviation from the usual appearances: the arm inflamed and suppu-

the shingles and vesicular ringworm), the dry and the humid tetter, and the lichen, but especially the porrigo (or tinea) comprising the varieties denominated crusta lactea, area, achores, and favi, all of which are contagious. To these perhaps should be added the itch and prurigo.

" Imperfect vaccination is not characterized by any uniform sign or criterion, but exhibits, in different cases, very different appearances, as pustules, ulcerations, or vesicles of an irregular form. The vaccine pustule is conoidal; it increases rapidly from the second to the fifth or sixth day, being raised on a hard inflamed base, with diffuse redness extending beyond it on the skin. It is usually broken before the end of the sixth day, and is soon after succeeded by an irregular yellowish brown scab. The redness disappears within a day or two, and the tumour gradually subsides. According to Dr. Jenner, ' Its commencement is marked by a troublesome itching, and it throws out a premature efflorescence, sometimes extensive, but seldom circumscribed, or of so vivid a tint as that which surrounds the pustule (vesicle) completely organized; and (which is more characteristic of its degeneracy than the other symptoms) it appears more like a common festering produced by a thorn, or any

rated, but not extensively: some slight indisposition took place, and a few pimples were scattered over the skin, which did not suppurate. The parents not being quite satisfied, the child was inoculated a second time, with variolous matter, about two years afterwards, when the appearances on the arm, and the disorder of constitution, recurred as at first. Soon after this time, the child was put to bed with a person who had a full burthen of small-pox, but was not infected. When two years more had elapsed, the child was vaccinated by Mr. Lauder, an experienced and respectable surgeon at Newnham. The puncture produced only an incomplete pustule, surrounded by considerable inflammation. Mr. Lauder then consulted me, and on my making inquiry respecting the state of the skin, he told me that the child, from its early infancy, had been affected with eruptions on its head, and other parts of the body. Feeling satisfied that he had thus accounted for the preceding circumstances, I endeavoured first to subdue the eruptions. As soon as this was accomplished, the child was again vaccinated, when a pustule appeared, which went through all its stages, with the most perfect regularity and correctness."

other small extraneous body, sticking in the skin, than a pustule (vesicle) excited by the vaccine virus. It is generally of a straw colour, and when punctured, instead of the colourless transparent fluid of the perfect vesicle, its contents are found to be opaque.'

" Respecting the ulceration, Dr. Jenner observes, ' In a late case, the punctured part on a boy's arm (who was inoculated with fresh limpid virus,) on the sixth day, instead of shewing, as usual, a beginning vesicle, was incrusted over with a rugged amber-coloured scab. The scab continued to spread and increase in thickness for some days, when at its edges a vesicated ring appeared, and the disease went through its ordinary course, the boy having had soreness in the axilla, and some slight indisposition. With the fluid matter taken from his arm, five persons were inoculated. In one, it took no effect; in another, it produced a perfect vesicle; but, in the other three, the progress of the inflammation was exactly similar to the instance which afforded the virus for their inoculation: there was a creeping scab, of a loose texture, and subsequently the formation of limpid fluid at its edges.'*

" Dr. Woodville has mentioned a similar appearance, and considers it as indicating an ineffectual inoculation.

" He refers ' to cases in which it happens, that though the local affection does not exhibit much more inflammation than is usual, yet neither vesicle nor pustule supervenes, and, in which, about the sixth or seventh day, it rapidly advances into an irregular suppuration, producing a festering or crustaceous sore.'

" These ulcerations probably originate from the vaccine pustule, which on account of the itching it excites, is sometimes scratched off at a very early period, or being prominent and of a loose texture, is injured and exasperated by the friction of the clothes, &c.

* " Dr. J. remarks elsewhere, ' In some instances, the ring of vaccine fluid fixed a boundary to the extension of the scab, the effloresence followed, and the constitution was found secure from the smallpox; but in other instances, the process ended more abruptly, and then of course the susceptibility of the vaccine virus remained, which was proved by subsequent inoculation.'

"Inoculators are now generally acquainted with the pustule and ulceration above described; but the chief nicety and difficulty of vaccination, is in distinguishing from the genuine vesicle, some irregular vesicles, which have often been mistaken for it, and which do not wholly secure the constitution from the smallpox.

"I have observed three sorts of these irregular vesicles. The first is a single pearl-coloured vesicle, set on a hard dark red base, slightly elevated. It is larger and more globate than the pustule above represented, but much less than the genuine vesicle: its top is flattened, or sometimes a little depressed, but the margin is not rounded or prominent.* The second appears to be cellular like the genuine vesicle, but it is somewhat smaller, and more sessile, and has a sharp angulated edge. In the first the areola is usually diffuse, and of a dark rose-colour: in the second it is sometimes of a dilute scarlet colour, radiated, and very extensive, as from the sting of a wasp; at other times it has the form and colour exhibited Pl. I. No. 7.† The areola appears round these vesicles on the seventh or eighth day after inoculation, and continues more or less vivid for three days, during which time the scab is completely formed.‡ The scab is smaller and less regular than that which succeeds the genuine vesicle; it also falls off much sooner, and, when separated, leaves a smaller

* "A vesicle of this kind appeared in the vaccination of Miss Georgiana Whitworth (M. and P. Journal, August, 1801. See the last note.) 'It was,' according to Dr. Fawssett, 'more globular, and seemed to have a thinner pellicle than the genuine cowpock.'

† All these remarks are illustrated by coloured engravings in Dr. Willan's work, which we regret very much that we cannot imitate.

‡ "Mr. Whately has well described an irregular vesicle as it occurred after inoculation, in two persons who had previously had the smallpox. "A slight inflammation took place round the punctures on the second day, and gradually increased to the ninth, when its appearance was erysipelatous, and its extent round the vesicle was at least a hand's breadth. It had not the areola usually met with in the cowpock; but in two places there were red lines of the breadth of a finger, in the course of the lymphatics. On the eighth day

cicatrix, which is sometimes angulated.—The third irregular appearance is a vesicle without an areola.

" The vaccine pustule, and ulceration, may sometimes arise from the insertion of effete or altered virus; but they mostly occur in persons labouring under the eruptive complaints mentioned page 117.*

" The irregular vesicles are produced by some of the causes enumerated page 115-6.—The vesicle without an areola, takes place if the person inoculated have previously received the infection of the smallpox, or if he be affected with some other contagious fever, during the process of vaccination.

" I observed the co-existence of an irregular vesicle, and the vaccine pustule, in a girl five years old, probably one of those who are not susceptible of the smallpox. She was first vaccinated without any perceptible effect, although six children of the same family had the regular vaccine disease by means of fluid taken from the person from whom she was vaccinated. The little girl was again vaccinated in both arms, about two months afterward, when she had the vaccine pustule from the puncture in the right arm, and from that in the left, a vesicle without any areola, and of an irregular form, one side of it being much more elevated than the other. The year following she was inoculated with recent variolous matter, but did not take the smallpox.

" Professed inoculators, I make no doubt, have observed other modifications of the inoculated vaccine disease. The irregular appearances above described, and represented by engravings, may serve to put those who have less experience, on their guard, and

there was much pain in the axilla, with feverish symptoms, and loss of appetite. From this time, the inflammation declined, and in four days, it wholly disappeared, leaving on the inoculated part, a horny scab, which did not fall off for some days.' See Mr. Ring's treatise, p. 711.

* " See Dr. Jenner's Obs. M. and P. Journal, for Aug. 1804. Mr. Hutchinson's, April 1801. The effect of cutaneous eruptions on the vaccine vesicle is frequent, not universal. Compare Dr. Wood's and Mr. Creaser's Remarks, M. and P. Journal, Feb. and April 1806.

induce them, when there is any deviation from the regular form and course of the vesicle, to reinoculate at a future period.

"In Dr. Woodville's opinion, 'whenever vaccine innoculation excites a pustule of any kind, though it continue but one or two days, and should be succeeded by an ulcer, the inoculation is as effectual as where the tumour has proceeded in the most regular manner.'—Further experience has ascertained that neither the vaccine pustules nor ulcerations sufficiently protect the constitution from the smallpox, yet that in a few instances, matter taken from the pustule has communicated by inoculation the genuine vesicle, and that, in some, the vesicle on the sixth or seventh day succeeded, or took the place of the pustule,* as if the patients had been inoculated from themselves. In the greatest number of cases, however, the vaccine pustule, on inoculation, produced a pustule of the same kind, and thus laid the foundation for a series of inefficient inoculations. Dr. Odier began to vaccinate at Geneva, with virus taken on threads from the arm of a nobleman who had previously had the smallpox. Twenty children were inoculated successively with this matter, and similarly affected. Their arms inflamed within eight hours, and afterwards suppurated abundantly, but with an exudation from beneath a thick crust. Fever supervened, with vomitings, and other symptoms, which, however, ceased in forty-eight hours. Seventeen of these children being afterwards inoculated with variolous matter, had the smallpox with different degrees of virulence, and three of them died, having taken the disorder by casual infection.

"The effect of vaccination, when there are irregular vesicles

* "Mr. Ring's Treatise, p. 668; p. 370, from Dr. Cappe; and p. 941, from Dr. Sacco.—I may mention as an analogical fact, that in some cases of variolus inoculation, there are two successive eruptions. The first consists of large distinct pocks, without fever: in the second, which takes place on the ninth or tenth day after the first, the pustules are small and coherent, or sometimes confluent. With these cases I would rank that of Mr. King's child noticed in the Med. and Phys. Journal for Nov. 1805, p. 405, and by Dr. Fraser. Instances of a similar irregularity in the eruption of the measles I have given elsewhere. See Reports on Diseases in London, p. 106."

(p. 118) is different in different cases. They appear fully to secure some individuals from the infection of the smallpox, in others the constitution is but imperfectly guarded against the smallpox by these vesicles, the disease taking place after them, at different intervals, under a particular form.*—I may add further, that when the fluid they contain is used for the purpose of inoculation, it sometimes produces an irregular, and at other times a genuine vesicle. According to Dr. Jenner, 'The vaccine fluid, even in a pustule (vesicle) going through its course perfectly, if taken in its far advanced stages, is capable of producing varieties, which will be permanent, if we continue to vaccinate from it.'

"Mr. Mudge's dissertation on the inoculated smallpox, affords an instance of an irregular and insufficient form of the smallpox thus perpetuated. In a series of inoculations, he says, 'Thirty were inoculated with crude matter taken from the arm on the fifth day after inoculation, but, though the infection took place so as to produce, in each patient, a very large, inflamed, and prominent pustule, with matter in it, yet not one of them had any eruptive fever, or a single subsequent eruption on any part of the body.'——'The matter which was in these pustules, having been used to inoculate others, produced on them exactly the same appearances, unattended also with either fever or smallpox.' 'The whole number being reinoculated with matter taken after the eruptive fever, the result was that every one of them had the eruptive fever and succeeding eruptions: in short, they had the smallpox in different degrees, but all in the usual way of inoculated patients.'

"Since the vaccine virus, compared with that of the smallpox, appears to be more delicate, and more liable to degenerate, or to fail in its operation from various causes (page 115), several practitioners are of opinion that the variolous is preferable to the vaccine inoculation, and that it may be conducted with equal

* "Persons thus partially or imperfectly guarded seem only to take the disorder after repeated or long-continued exposure to infection.

safety. I need not at present recapitulate the advantages of vaccine inoculation, which thousands have attested. The salutary effects of this practice, under the proper regulations, being fully established should we now desist from it, because it is found to require greater nicety and attention than many persons at first believed necessary ? A very different conclusion ought surely to be drawn from failures, which were not so much the effects of accident, mistake, or oversight in the early inoculators, as of inexperience in the business they had undertaken. During the years 1799, and 1800, vaccine inoculation was practised by ten or twelve thousand persons in the united kingdom, who had never seen the vaccine vesicle before they began to inoculate, nor could be acquainted with its different stages and appearances. The right inference, from the mistakes or failures above stated, and from the nicety of vaccine inoculation, is, that only those should be inoculators who have had a sufficient education, and who have particularly attended to the subject of vaccination.

" By an obvious collateral inference, we must be led to acknowledge the propriety of a strict examination of the persons inoculated between the 1st of Jan. 1799, and the 1st of Jan. 1802, and the necessity of re-inoculation in every doubtful case. In cities, and large towns, where medical practitioners have easy access to their friends and patients, the examination might be performed without much trouble, and, if a little address were employed, without exciting much alarm. I believe the scrutiny has, in some places, been already made ; but my wish is, more particularly to impress the expediency of it on surgeons resident in small towns, and districts, remote from the original sources of vaccine inoculation. As they must, at first, have often received the fluid circuitously, they could not always be sure respecting its age and state, nor could they, being at that time without experience, know whether the appearances it produced were so decisive, that its effects would be adequate to the intended purpose. I do not by this observation mean to censure the gentlemen to whom it is addressed. Whatever credit we may allow ourselves in the metropolis, for skill, correct information, and local advantage, we must confess

that numerous mistakes and failures have occurred with us, some will say, more than in all the considerable towns of England taken together. Practitioners in the country having no resource but in their own sagacity, often acquire as much professional knowledge and experience as those who seem to have better opportunities. The most expert surgeon or physician, however, cannot at once see the whole extent of a new mode of practice or a new operation, or ascertain, otherwise than by repeated trials, whether it will be effective in every variety of circumstances and constitution. For this reason, I wish that practitioners throughout the country would, by revising their primary inoculations with a more experienced judgment, take care to ascertain the safety of those who have confided in them, and thus secure their own peace of mind; for what would their feelings be, if the smallpox, casually conveyed,* should prove fatal to any of the persons whom they first persuaded to make trial of the new inoculation?"

[Willan on Vaccine Inoculation, p. 31.

The fourth and last objection, viz. that the vaccinepock is productive of other diseases is refuted by the observations and reports of those best qualified to give an opinion on this subject. Such are the Royal Jennerian Society, the Vaccinepock Institution in London, and various other vaccine institutions in Great Britain and Ireland. Such also is Dr. Willan, whom we have already quoted very largely, and whose extensive practice in London, particularly in cutaneous diseases, entitle his remarks on this subject to peculiar credit. He says, "I have carefully examined, with different physicians and surgeons, various cases of

* "This disease appears from time to time in the remotest vallies and townships of Britain, and makes a dreadful ravage. The interval seldom exceeds twelve years. Mr. Bryce informs us that the greater part of the children, in two parishes of Scotland, were vaccinated by persons not of the medical profession, and who were unacquainted with the vaccine disease: 'The result was, that the smallpox came among them soon afterwards, and every one thus inoculated was affected with that dreadful disease; while those few that had been inoculated by persons acquainted with the appearances in cowpox, entirely escaped.' Pract. Obs. p. 168."

cutaneous eruptions attributed to vaccination. Instead of the mange, or any eruption communicable from quadrupeds to the human skin, we constantly found diseases, which were known, and have been fully described, by medical writers, more than a thousand years ago, viz. the lepra, the dry and the humid tetter, the prurigo, the chronic nettle-rash, and the strophulus candidus; but more especially the dandriff, the favus, the crusta lactea, the scaldhead, and the ringworm.—Some persons maintain that if the inoculation of vaccine virus does not excite new eruptions on the skin, it, at least, increases the number of the cutaneous complaints with which we were before acquainted, and renders them more inveterate. My own experience would authorise me to contradict this assertion, but I shall perhaps refute it more satisfactorily by exhibiting the annexed lists, which Dr. Bateman, at my request, extracted from the Register of patients at the Public Dispensary in London:

	Total number of diseases.	Number of chronic cutaneous eruptions.
In the year 1797 . . .	1730 . . .	85
1798 . . .	1664 . . .	82
1804 . . .	1915 . . .	89
1805 . . .	1974 . . .	94

"This table shews that the proportion of cutaneous eruptions to all other diseases, was the same before the publication of Dr. Jenner's inquiry, as in the 6th and 7th year of vaccination.

"The following observations by Mr. Charles Brandon Trye, Senior Surgeon to the Infirmary at Gloucester, afford a striking confirmation of the above statement.

"1. 'A more healthy description of human beings does not exist, nor one more free from chronic cutaneous impurities, than that which suffers most from cowpox, by reason of their being employed in dairies.

"2. 'The Gloucester Infirmary, one of the largest provincial hospitals, is situated in a county, in which accidental cowpox has been prevalent from time immemorial: many hundreds among the labouring people have had that cowpox since the establish-

ment of this institution, and that more severely than is generally the case in artificial vaccination ; and yet not a single patient, in half a century, has applied to the Infirmary for relief of any disease, local or constitutional, which he, or she, imputed or pretended to trace to the cowpox. And be it repeated and remembered, that the artificial in no respect differs from the accidental cowpox, except in being generally less virulent.'

" Glandular diseases are usual, and often immediate consequences, both of the natural and inoculated smallpox. In this respect, the vaccine, compared with variolous inoculation, has a decided advantage, being seldom succeeded by inflammation and suppuration of the glands. Among children of respectable families, I have not seen a single instance of scrophula, which could be fairly referred to the cowpox. The children of the poor are not affected with glandular swellings, immediately after vaccine inoculation, as they frequently are after the smallpox, measles, and scarlatina anginosa. Where scrophulous symptoms occur one, two, or three years after vaccination, we cannot surely, with justice, attribute them to it, since impure air, improper food, dirt, confinement, and virulent diseases, such as the lepra, scaldhead, itch, and impetigo, so generally contribute to the production of glandular diseases in the lower class of people?"

[Willan on Vaccine Inoculation, p. 81.

It remains for us to describe the methods which have been proposed to obviate the few evils, which may arise in the practice of vaccination. These evils are the two following, for there are not any others worthy consideration. The first is the risk of the inoculator's relying on imperfect vaccination. The second the risk which every individual incurs of his liability to smallpox a second time, or what is the same, of smallpox after cowpock.

As respects the first objection it is to be obviated in future by acquiring the requisite instructions, and by revaccinating in all cases, where there is the least irregularity. But it is fair to presume that we have in times past had our full share of cases of imperfect vaccination. We necessarily undertook the practice without any other instruction than that obtained from books ;

and the laws of our Commonwealth have prevented our frequent appeals to the smallpox as a test in doubtful cases, a practice, by which inoculators in other parts of the world were enabled to acquire knowledge on this subject. The only remedy is to revaccinate at least all those, respecting whom there is the least doubt. Few of us however can remember with accuracy all the cases which have been under our care, and the imperfect cases are most likely to have been among the first. Would it not then be proper to offer to revaccinate all our patients of the years 1800, 1801, and 1802, agreeably to the proposal made by the very excellent writer* whom we have so often quoted.

The second may perhaps appear the greatest evil, since it would seem that all our caution may be insufficient to afford us absolute security against the smallpox. We have already stated that those, who have undergone variolous inoculation, are equally unsafe. But while this saves the credit of vaccination, it does not remove the evil. The risk is however so small that it may not to some persons appear to be worthy any remedy. But it seems proper to state what remedy there is, and leave it to the parties most interested to judge for themselves, whether they will adopt it.

The medical officers of the Original Vaccinepock Institution in London employ as a test to all their patients a second inoculation with vaccine matter. They give to each patient a certificate that he has undergone the vaccine disease, with a promise that if he should afterwards take the smallpox the institution will pay to him the sum of five guineas. But as the inoculators have five guineas at risk in each case, they always require that the patient should submit to this test before they give the certificate. If the test be of any use, the wisdom of this requisition will not be questioned. Is not the risk to every patient as important as that of five guineas to the inoculator? If it is, surely it is reasonable that every individual should have proffered to him the security, which this test will afford. The following extracts from the minutes of the Vaccinepock Institution will show on what ground

* Dr. Willan.

this second inoculation is relied as a test of susceptibility or unsusceptibility of smallpox.

Extracts from the minutes of the Original Vaccinepock Institution.

" Feb. 3, 1807. It having been intimated by several of the members of the committee of the College of Physicians for investigating the state of the vaccine practice, that they would be extremely glad of the opportunity of witnessing the trial of inoculating a certain number of persons with the variolous matter in one arm, and the vaccine in the other, after having undergone the cowpock, with the view of ascertaining the susceptibility for the one or the other of these ; it was proposed that at least twelve persons, before vaccinated at this institution, should be desired to attend on Saturday, February 14, for that purpose."

[Med. & Chir. Rev. p. lxiv.

" Tuesday, Feb. 17, at a weekly board :—

" In a letter sent to the committee of the Royal College of Physicians by the medical establishment, on the subject of vaccination, it was proposed to submit to the decision, by experiment, the question—Whether a person, after cowpock inoculation, is not in the same state of susceptibility or unsusceptibility of the cowpock as of the smallpox, agreeably to the experience of this institution for several years back. For if the publick can be satisfied with regard to this fact, the test by inoculation with cowpock matter will then afford a proof of security equal to that by smallpox matter ; and, consequently, the practice of inoculation with variolous matter after the cowpock, which has been objected to as tending to the dissemination of that matter, will become unnecessary.

" Accordingly, the following fellows of the college attended yesterday (Monday the 16th) for their private satisfaction, to see this question determined by experience ; namely, Dr. Ash, Dr. Heberden, Dr. Pemberton, and Dr. Warren.

" The members of the medical establishment who conducted the experiments were, Mr. De Bruyn, Mr. Doratt, Mr. Payne, Dr. Pearson, and Dr. Shaw.

"The variolous matter used in the experiment was taken from the vesicle of the inoculated part of the arm of Mrs. Allen's child, 4, Knightsbridge, aged five months, the eleventh day from inoculation. It had been ill for the last two days, and eruptions were already coming out. There were two distinct vesicles in the parts inoculated, in the usual state at this period.

"The patient who furnished the cowpock matter was Mr. Holder's child, 10, Bateman's buildings, who had on the arm three most distinct cowpock vesicles, which were ascertained to be in an efficacious state by producing the cowpock in several subjects.

"The subjects of the trial were,

"1. Edward Baldock, aged ten years: three scars, now scarcely visible, were on the left arm, but had been very evident: inoculated at this institution Oct. 30, 1803.

"2. Charles Baldock, aged eight years: had one just perceived scar, but two others were now obliterated.

"3. Joseph Baldock, aged six years: three scars on one arm, and one on the other.

"4. Benjamin Baldock, aged five years: only one superficial scar remained from the former inoculation.

"5. Sarah Baldock, aged two years: two barely visible scars remained from the former inoculation.

"These five children of Mr. and Mrs. Baldock, residing at Palace Green, Kensington, were all in a state of good health.

"6. Elizabeth Mc Donald, aged six years: had three scars, distinct but very superficial, from the former inoculation.

"7. David Mc Donald, aged four years: had only one superficial scar from the former inoculation.

"8. Anne Mc Donald, aged three years: had one superficial scar from the former inoculation scarcely visible.

"These three were from the same family, at 1, Tufton street, Westminster: they had been inoculated at this institution October 30, 1803.

"9. William Mc Donald, brother of the three last mentioned children, aged eleven years, who had gone through the smallpox

when a year and a half old, happening to be present, he and the eight above named children were all inoculated by Mr. Doratt in the right arm, by three punctures with variolous matter, and in the left by three punctures with vaccine, immediately from the patients affording the matter present (except William Mc Donald, who, by miſtake, was inoculated in the left arm with variolous matter, and in the right with vaccine.)

"There were also inoculated on this occasion, Anne, James, and Richard Hodgson, of 1, Wimpole-street, who had gone through the cowpock at this institution.

"10. Anne, aged three years, was inoculated with smallpox matter in three places in the right arm, and in the left in three places with cowpock matter.

"11. James, aged four years: had two deep scars on the left arm, and one on the right, from the former inoculation; was inoculated in three places in the left arm with smallpox matter, and in the right in three places with cowpock matter.

"12. Richard, aged five years: had three scars on the left arm from inoculation, and one on the right; was inoculated in three places in the left arm only with variolous matter, an objection being made to inoculating the other arm.

"These twelve subjects were directed to attend on Saturday, at one o'clock, at which time the gentlemen present proposed to meet again for the examination of the effects of the inoculation."

"Second meeting, Saturday, Feb. 21, 1807.—Present, Dr. Aſh, Mr. De Bruyn, Mr. Carpue, Dr. Clutterbuck, Mr. Payne, Dr. Pearson, Dr. Shaw, Dr. Warren.

"The vaccine matter inserted this day was from the child Shuker, ninth day after inoculation.

"The variolous matter was from Allen's eruptions of the seventh day.

"1st. Two new patients attended for trial who had been inoculated at this institution December, 1803; viz.

"13. Thomas Pearson, aged nine years. By three punctures in the right arm, variolous, and by three punctures in the left.

arm, vaccine matter was inserted. Had one superficial scar from the former inoculation.

" 14. William Pearson, aged three years. Three punctures in the right arm received variolous matter, and three punctures in the left received vaccine. Had a superficial scar on each arm from inoculation formerly.

" 2d. The Hodgsons inoculated at the last meeting attended. Richard Hodgson had now in the left arm three pimples, not unlike the fourth day of inoculated smallpox or cowpock. No effect till yesterday.

" James Hodgson ill the day before yesterday; to-day is recovered. Has three large pimples, which seem to be scabbing, on the right arm; three pimples ſtill more decidedly scabbing in the left arm.

" Anne did not attend; but Mrs. Hodgson reported that there was no effect at all.

" 3d. Elizabeth Mc Donald. On the left arm were three pocks much like those of the former patients, Richard and James Hodgson; on the right arm three larger pocks than on the other arm.

" Anne Mc Donald. The left arm bore three pocks much the same as the former; on the right arm much the same pocks as the former: Anne's appeared infected the day after insertion.

" William Mc Donald. There were three pimples in a scabing state in each arm, but less defined than the former subjects. The arms inflamed the next day after insertion. Quite well.

" 5th. The three following, inoculated at the former meeting, were examined.

" Edward Baldock. On the right arm were three pocks exactly like the fifth or sixth day of the cowpock, well defined. Left arm; just marks of the punctures remain. There had been no inflammation of the arms.

" Charles Baldock. Right arm, three small pimples in the scabbing state. Left arm, three scabbing pimples much like the other. Quite well.

" Joseph Baldock. Right arm, three pimples like the former, but inflamed; probably from scratching. Left, red marks only.

" Benjamin and Sarah Baldock did not attend.

" Third meeting, Thurſday, Feb. 26, 1807.—Present, Dr. Ash, Mr. De Bruyn, Mr. Thompson Forster, Dr. Heberden, Dr. Nelson, Mr. Payne, and Dr. Pearson.

" The family of the Baldocks all attended, being the eleventh day after insertion.

" 1st. Edward Baldock. Right arm had three pocks in the inoculated part in a semi-purulent state, not very unlike ninth day smallpox.

" On the ninth and tenth days, it is said, there was much redness and inflammation round the part inoculated, but which is now totally gone off.

" Five or six days ago, complained of a swelling in the axilla of the right arm, with pain: now gone off. Matter was taken from these pocks upon glass for trial. The outline of the areola is barely visible.

" In the left arm the marks of the punctures are just visible; has had no pain of the axilla in that arm, nor of the shoulder. Was heavy, dull, and poorly, particularly on the seventh and eighth days, but was pretty well on the ninth, on which day the redness upon the arms was pretty considerable.

" Charles Baldock. On the right arm two of the three small scabs have fallen off; one, of the size of a pin's head, remains. There has been no redness of this arm. On the left arm scarcely any traces of the pimples now remain. No illness.

" Joseph Baldock. On the left arm three small scabs from the pimples. There has been no inflammation nor pain of the arm-pits. Right arm, only traces of the punctures left; pain of the arm-pits or shoulders on this side. No illness.

" Benjamin Baldock. Right arm, three extremely small scabbed pimples. Left arm, three ditto: no inflammation of the arm nor pain of the arm-pit. Was poorly on the seventh day, when a few fleabite like spots appeared, of which some now remain.

" Sarah Baldock. The traces of the three pimples upon each arm just remaining. No illness, and quite well.

" 2d. William Mc Donald, aged eleven years, who had had

the smallpox in the natural way nine years ago, by which he is distinctly but slightly scarred. The three pimples in each arm exactly alike. There has been no redness, pain, nor illness.

" Elizabeth Mc Donald. Three very distinct marks in each arm from the punctures, and much alike. Those on the left arm are on the three scars from former inoculation. There has been no redness in either arm, nor pain of the arm-pits, nor illness.

" David Mc Donald. Marks on each arm from the punctures, only more evident in the right arm than the left. No redness since the day after the insertion, nor any pain nor illness subsequently.

" Anne Mc Donald. The right arm exhibits three scabbed pimples. On the left, three scabs as large have fallen off, and left three larger marks.

" 3d. Thomas Pearson. Several days after insertion on the right arm were two distinct pimples only. There has been no redness. Left arm, two similar but smaller pimples.

" William Pearson. Right arm, two elevated pimples, not unlike the third or fourth day variola or vaccine ; a third larger, with red irregular areola round it. On the left arm similar pimples to the former, but smaller. No inflammation nor redness, but ill ever since Saturday, the day of inoculation ; probably from cold.

" 4th. The Hodgsons. Richard had three scabbing pocks, containing matter not like either cowpock or smallpox ; James, only small scabbed pimples in parts inoculated ; Anne, no traces of inoculated parts.

" The following cases were reported, being relative to the question under determination.

" Tuesday, Feb. 24, two boys, Robert Brush, nine years old, No. 3044, and James Brush, No. 3045, from 10, Margaret-street, Cavendish Square, having gone through the cowpock in the usual way, by inoculation at the Institution in January last, were inoculated in three places in the right arm with smallpox matter, and in three places in the left arm with vaccine.

" Eleventh day, Friday 6th of March : James (13,) three

large scabbing pocks appeared on the left arm, unlike vaccine scabs ; and on the right, no effect from the insertion of variolous matter.

" Robert Brush. On the right arm were three large scabbing pimples, much like those of his brother, but smaller. On the left arm no effects were perceived from the insertions.

" Tuesday, 10th March, fifteenth day. James Brush : Three scabs on the left arm, unlike either vaccine or variolous. On the right arm no traces of the insertions.

" Robert Brush : Two scabs on the right arm irregularly figured, otherwise like fifteenth day vaccine, although from variolous matter. Left arm, nothing seen from the insertions of vaccine matter.

" *Conclusion.*—According to these trials, which serve to confirm several hundred others already instituted by this establishment, the constitution is alike susceptible or unsusceptible of the smallpox and cowpock ; of course, the matter of the latter may be relied upon as a test, as much as that of the former. However, as the local affection of the cowpock without constitutional disorder not unfrequently resembles the cowpock attended by constitutional affection ; and as, in a certain proportion of cases, the smallpox can take place after distinct cowpock, as well as the cowpock ; it has been asserted that a person is susceptible repeatedly of the cowpock, though not of the smallpox, and in this way the error may be explained.

" *Remarks.*—1. From the preceding cases, it appears that neither the smallpox nor cowpock could be excited by insertion of what is esteemed the most efficacious matter, in thirteen persons who had undergone the cowpock about three or four years before, nor in two who had been vaccinated only a few weeks previously.

" 2. A local affection, viz. a pimple which enlarged into an irregular-figured pock, or at least a larger pimple, was excited by the punctures with variolous matter in the arms of seven patients ; and in the same patients, the punctures with vaccine matter excited nearly similar pimples.

"3. A local affection which was at first a pimple, but became an irregular-figured pock, was excited in the arms of three patients by the insertion of variolous matter; and by the insertions of vaccine matter in the same patients, only very small pimples were produced.

"In one patient, a local affection was excited in one arm by vaccine matter, but not in the other by variolous.

"4. In three patients, no local affection at all was produced, or at least red marks only of two or three day's duration.

"5. Neither constitutional disorder, nor affection of the axillary glands, was produced in any of the subjects of trial, excepting one on the seventh and eighth day.

"This patient on the eleventh day had three pocks from the variolous matter, not unlike inoculated smallpox, in a semi-purulent state, attended by the characteristic areola; while on the left arm, from the vaccine matter, were only red marks.

"6. One patient, inoculated by three punctures with variolous matter only, had three irregular-figured pocks excited, two of which afforded rather permanent scabs.

"7. One patient, who had undergone the natural smallpox, had three pimples excited in each arm, all much alike, by the cowpock and variolous matter.

"8. In some cases the local affection was more considerable from the variolous than from the vaccine matter, but in none more from the vaccine than the variolous.

"9. The local affection, both from the variolous matter and vaccine, sometimes resembles the cowpock, but never the regular variolous pock of the inoculated part."

[Med. and Chir. Review, vol. 14. p. lxxxii.

Opinions similar to those here maintained were long since advanced by Mr. Ring, and admitted by many vaccinists in England. The experiments related ought at least to add to the inducement to revaccinate all those who underwent the cowpock in 1800, 1801, and 1802. It would indeed be proper to extend the offer of revaccination, or of testing with vaccine matter, to all whom we have heretofore vaccinated; and to state to those

who may hereafter be vaccinated the advantages of this test. In employing this test we ought to introduce the vaccine matter into at least four different places.

The committee are aware that few persons in this country are prepared to hear from this society that the vaccine disease is not in all cases a perfect security against the smallpox; and they presume it will be feared by some that suggestions of this sort, which must accompany any remedy that shall be proposed, may deter our fellow-citizens from submitting to vaccination, and thus deprive us of the security, which this practice will undoubtedly afford. But the committee feel assured that this society cannot desire to make any statement on this subject, which is not perfectly accordant with truth; and that the friends of vaccination can have no interest other than that of diffusing a most important blessing under such precautions, that it shall not be alloyed by any future disappointments. To the committee it appears that the advantages of vaccination are, under the circumstances they state, sufficiently decided to justify the expectations of any reasonable inquirer. The cowpock does not produce any sufferings in the subject of it, which are worthy consideration, and it does not in any case put life at risk. The precautions which are proposed go only to obviate an evil, which would not occur once in a thousand cases.

As respects the practice of vaccination in this commonwealth the committee regret to state that it has been much less extensive, than the welfare of the community requires. Although the laws and customs long since established ordinarily prevent the prevalence of smallpox among us,—from which the community have and do derive most abundant advantages,—yet it has been found necessary at times to permit this disease to be introduced into our large towns; that is, when its inevitable occurrence has occasioned many individuals to be exposed to its contagion. As the cowpock cannot be communicated except by inoculation, there is no inconvenience to the community in the practice of that inoculation. Could we destroy in every individual the susceptibility of smallpox by this benign remedy, we

should prevent even the occasional prevalence of that disease among us—an event which can never take place without a most injurious interruption of business, great expense, trouble and anxiety to every family concerned in it; and, what has usually happened on these occasions, a most lamentable proportion of deaths among those who undergo the disease.*

From the statements and opinions contained in the foregoing report the committee are induced to propose the following resolutions, as declaratory of the sentiments of this society; viz.

First—That in the opinion of this society persons who undergo the cowpock are thereby rendered as incapable of being affected by the virus of smallpox, as if they had undergone the latter disease.

Second—That it is be feared that in the early and even in some of the late practice of inoculating for the cowpock, the disease may not have been produced in the most perfect manner, and particularly in cases, where the inoculators have not been well instructed in this practice, nor been accustomed to observe the appearances of cutaneous diseases.

Third—That the moſt perfect and absolute security is to be derived from subsequent inoculation; and in all cases in which the operation was performed before inoculators had sufficient experience on this subject, as in the years 1800, 1801 and 1802, it is indispensably necessary to ascertain the security by this test.

Fourth—That it be and it hereby is recommended by this Society, that all persons who have been vaccinated, especially at the period alluded to above, call on those who inoculated them to perform a second inoculation; for which service the fellows of this society will not charge any additional fee.

* In 1792, when inoculation for smallpox was permitted in Boston, the deaths were more than two in a hundred of the number inoculated. This great mortality is easily explained, when it is remembered that half a town were inoculated at once without regard to age or circumstances of health, and that many of them had not any such advantages as are to be desired in respect to situation and attendance.

If the foregoing resolutions be adopted by the Society, the Committee recommend that the Recording Secretary be directed to publish the same in four newspapers in the town of Boston.

All which is respectfully submitted,

Signed, JOHN WARREN, A. DEXTER, JAMES JACKSON, JOHN C. WARREN, } *Committee.*

At the annual meeting of the MASSACHUSETTS MEDICAL SOCIETY, *held June* 1, 1808, *the foregoing report was read; and after some observations it was voted unanimously that the said report should be accepted, and that the resolutions therein proposed should be adopted.*

JOHN C. WARREN, *Recording Secretary.*

ERRATA—No. II. Part II.

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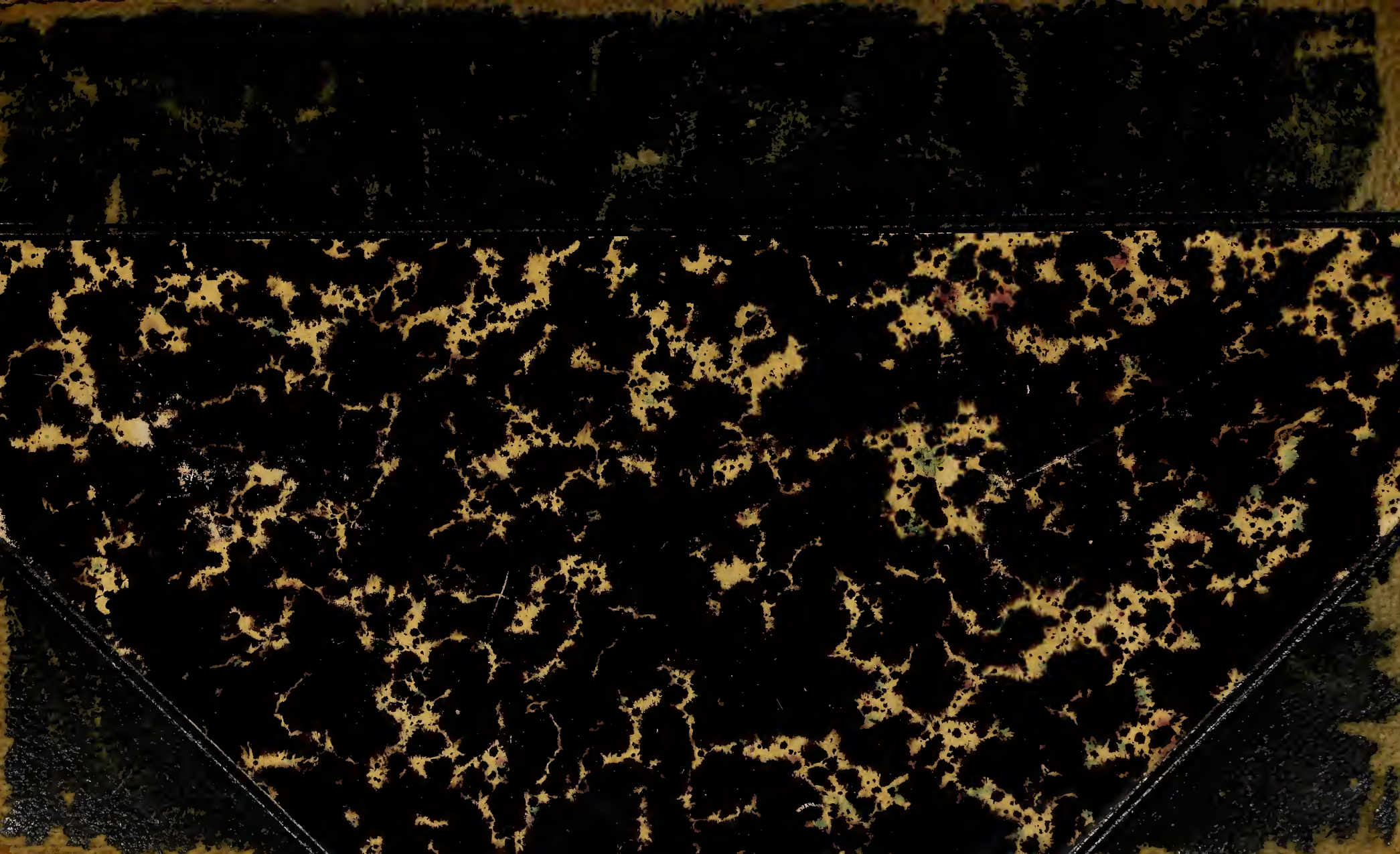
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